

NEW TRAIL

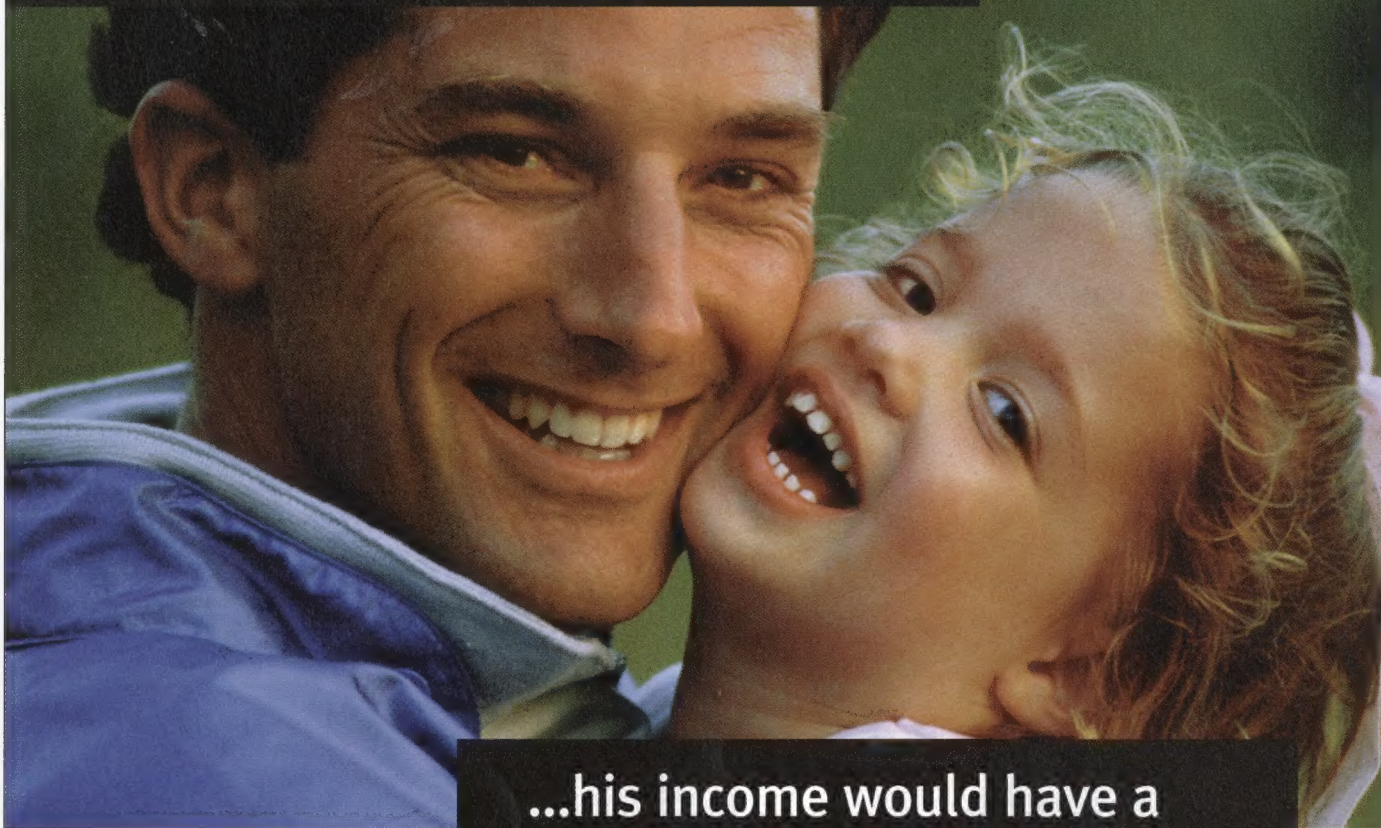
THE UNIVERSITY OF ALBERTA ALUMNI MAGAZINE ■ WINTER 1999/2000



GREEN AND GOLD INNOVATION

How the inventive spirit of U of A graduates
and faculty members has helped shape the
world in which we live.

If Mike were to suffer a heart attack...



...his income would have a major stroke.



A loss of income caused by a critical illness in a family can be a source of unneeded hardship and despair. More and more, and at younger ages, Canadians are forced to deal with a critical illness such as a heart attack, stroke or cancer, which alters their whole lives.

Medical advances and greater self-awareness means many are now surviving these serious illnesses, but few recover from the financial burden.

In addition to loss of income, expenses such as the mortgage, car payments, household bills and children's education will continue to mount. That's why the Seaboard Life Medical Crisis Recovery Plan is specifically designed to deal with these non-medical expenses. You collect the benefit if you survive for 30 days after first being diagnosed with one of the covered illnesses or injuries.

We can't do anything about the emotional strife of a critical illness, but we can free you from financial worries so you can concentrate on getting well.

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NEW TRAIL

VOLUME 54 NUMBER 3

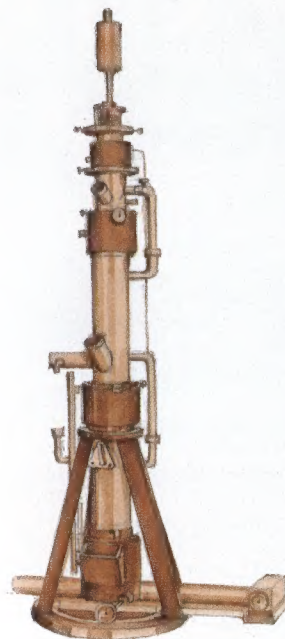
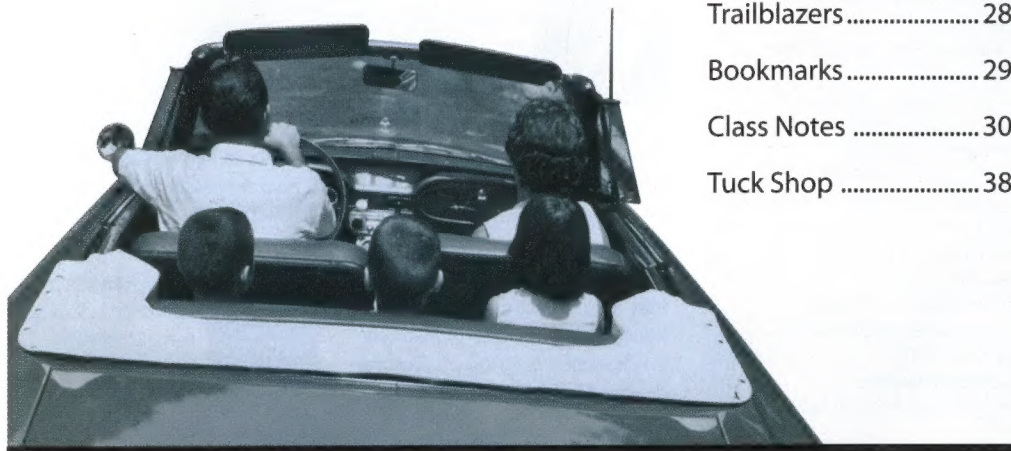
Features

Green and Gold Innovation • 10

From insulin to Astroturf. From the electron microscope to the "white rat" of the plant world. In a surprising number of ways, University of Alberta graduates and faculty members have contributed to the technological and scientific advances that have shaped the past century.

Coming to Alberta • 19

The University has a long tradition of attracting faculty members from all over the world. For many new faculty members, their arrival in Edmonton is their first encounter with the Canadian prairies, and the results are sometimes humorous—as can be seen in these excerpts taken from a book recently published by the Association of Professors Emeriti of the University of Alberta.



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Cover Illustration and design by
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of Lime Design Inc.

HERE'S HOW TO REACH US ...

Comments, suggestions, story ideas—*New Trail* welcomes them all. Our new reader response line is ready to take your calls. So leave us a message at **492-1702**. *New Trail* also welcomes letters to the editor. If you would like to comment on any of the stories that appear in the magazine, please write us at *New Trail*, 450 Athabasca Hall, University of Alberta, Edmonton, Alberta, T6G 2E8.

Stay in touch ...

On the move? To keep receiving *New Trail* call **492-4418** or **1-888-799-9899**, toll-free anywhere in North America. E-mail address changes to alumrec@ualberta.ca.

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BASECAMP



As I was working on the cover feature for this issue, I was reminded more than once of the movie *Forrest Gump*. Just as

Gump could be counted on to be somehow part of most of the historic events of his time, University of Alberta graduates seemed to be—in one way or another—involved in so many of technological and scientific innovations of the past century.

I had, of course, been aware of many of these involvements, but even I was surprised by the breadth and depth of involvement once I began compiling stories. And I kept turning up accomplishments that I knew nothing of. I hadn't known, for instance, that a U of A graduate invented the world's first convenient photocopier. That an alumnus was a member of Enrico Fermi's group that first achieved controlled nuclear fusion. That an alumnus invented the crash position indicator. That an alumnus developed the silicone membrane used as—among other things—the first artificial skin for burn victims. That an alumnus shared the honor as *Electronics* magazine's man of the year in 1980 for his role in developing the device that ushered in the age of low-cost, high-quality computer chips.

I could go on and on, but I'll let you read about these innovations and a great many more in the feature that begins on page 10.

The feature is one that I have been wanting to do for some time. It seemed appropriate to do it now, in our first issue of 2000.

And by the way, Happy New Millennium! to all our readers (even though I do know that, strictly speaking, the millennium doesn't actually begin for another year).

Rick Pilger
Editor, *New Trail*

NEW TRAIL

WINTER 1999-2000

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LANDMARKS

■ Three University professors were recognized by the Alberta Science and Technology Foundation this year.

Wayne Grover, '89 PhD, from the Department of Electrical and Computer Engineering received the ASTech Award for outstanding leadership in Alberta technology. Zoology professor David Schindler was recognized with an ASTech Award in the category of outstanding leadership in Alberta science. Crop specialist Gary Stringham, professor in the Department of Agriculture, Food and Nutritional Science, received the AVAC/ASTech Innovation in Agricultural Science Prize.

■ Another ASTech Award winner was the U of A spin-off company, Biotoools Incorporated, receiving the NRC/ASTech Innovation in Industrial Research Prize. BioTools Inc. develops computational tools for solving biological problems. Currently one of its projects is the human genome project that has scientists from around the world piecing together a complete map of the human gene.

■ Chemistry professor Norman Dovichi



[photo] and his former graduate student **JianZhong Zhang**, '94 PhD, were awarded the Manning Innovation Award of Distinction

for 1999. The research duo developed a successful high-speed DNA sequencer that operates at a rate 10 times faster than earlier technology.

■ The 1999 Louis D. Hyndman Sr.

Awards have gone to U of A professor Frank Robinson and graduate student **Nancy Joseph**, '98 BSc(Ag), both from the Department of Agriculture, Food and Nutritional Science, and to Lyle Bouvier, manager of the University's Poultry Research Facility. The awards are presented to researchers and technicians for their contributions to improving the welfare of animals used in research or teaching at the University.

■ Mark Boyce was recently appointed the first Alberta Conservation Association Chair in Fisheries and Wildlife.

This fall he took on the Faculty of Sciences first endowed chair in the Department of Biological Sciences. He comes to the University of Alberta from the University of Wisconsin.



■ U of A business professor Bob Hinings received the International Academy of Management's Distinguished Scholar Award—only the second time a Canadian scholar has won this award.

■ Biochemistry professor emeritus Cyril Kay has been appointed vice-president (research) with the Alberta Cancer Board. Kay will be responsible for the development of new research strategic initiatives.

■ University chemistry professor David Bundle is the recipient of the Canadian Society for Chemistry's R.U. Lemieux Award for 2000. The award is presented to organic chemists who make a significant contribution to any area of organic chemistry while working in Canada.



■ The Paleontology Division of the Geological Association of Canada has presented its Billing Medal of Distinction in Research and Publication to University geology professor Richard C. Fox.

■ The U of A diabetes research team has received \$2.7 million in funding from the 1999 Juvenile Diabetes Foundation and the Medical Research Council Diabetes Research Network Partnership award.

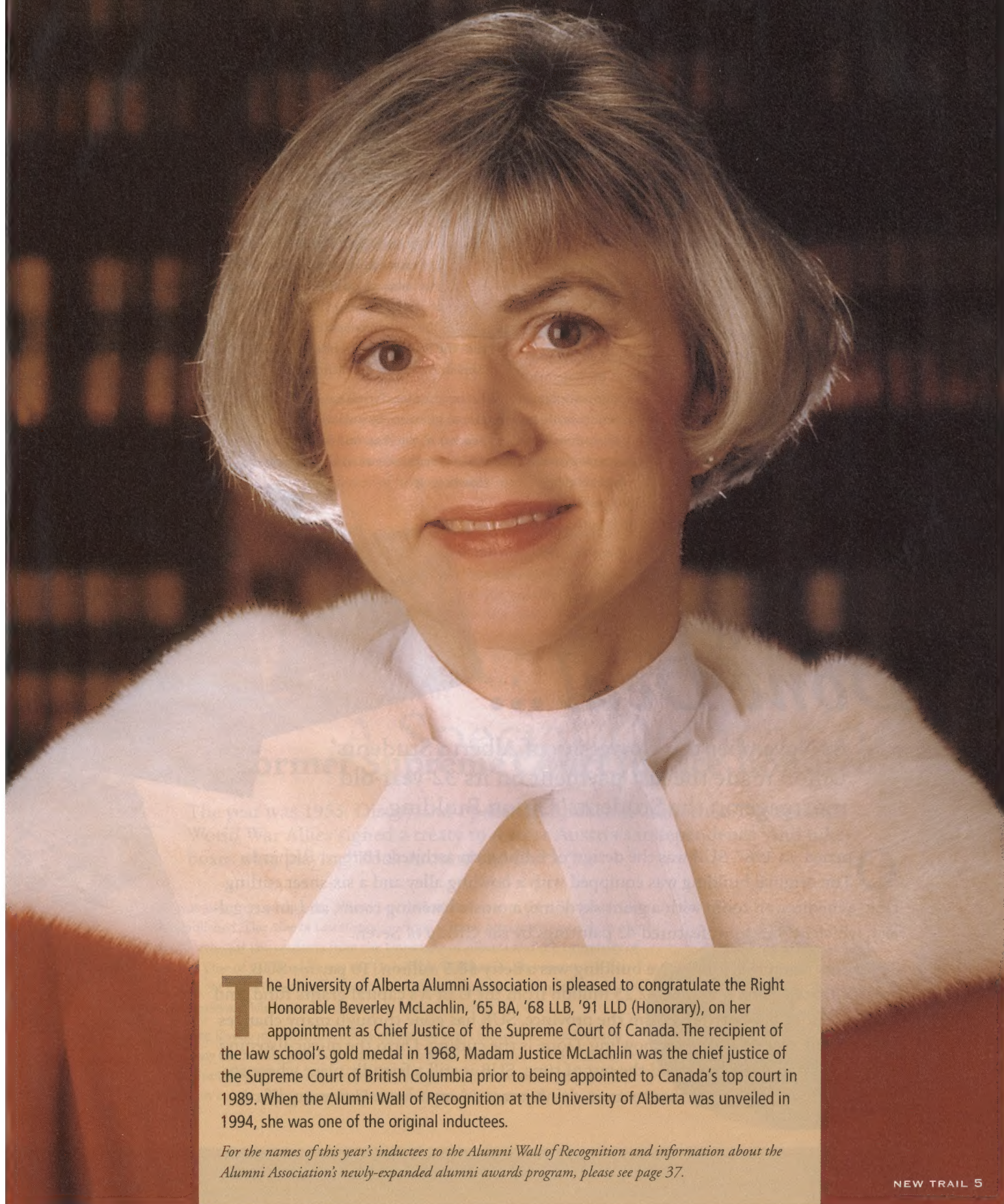
■ Shirley Stinson, professor emeritus of nursing and health services administration, was recently honored with the Alberta Order of Excellence.

■ The memoirs of U of A English professor Morton L. Ross have been published by NeWest Press, where Ross was an active member on the editorial board for 15 years until his untimely death in

1995. *An American Critic in Canada: The Literary Memoirs of Morton L. Ross* includes the four Broadus Lectures that he delivered as part of the English Department's series of annual lectures.

■ The University community notes with sorrow the passing of **Anthony Richard Morgan**, '64 PhD, professor emeritus in the Department of Biochemistry; **Louis L. Lanier**, '68 MA, professor emeritus in the Faculty of Physical Education and Recreation; and John Frank Ebdon, who was a programmer analyst with the University Libraries.

CONGRATULATIONS



The University of Alberta Alumni Association is pleased to congratulate the Right Honorable Beverley McLachlin, '65 BA, '68 LLB, '91 LLD (Honorary), on her appointment as Chief Justice of the Supreme Court of Canada. The recipient of the law school's gold medal in 1968, Madam Justice McLachlin was the chief justice of the Supreme Court of British Columbia prior to being appointed to Canada's top court in 1989. When the Alumni Wall of Recognition at the University of Alberta was unveiled in 1994, she was one of the original inductees.

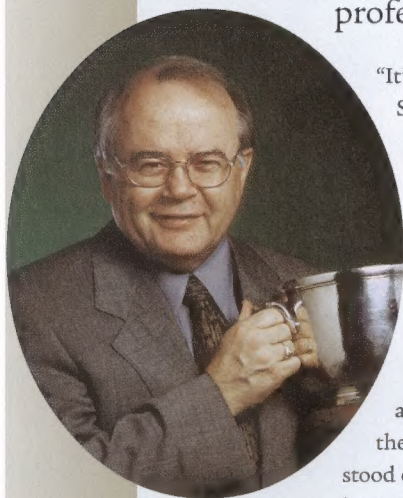
For the names of this year's inductees to the Alumni Wall of Recognition and information about the Alumni Association's newly-expanded alumni awards program, please see page 37.

bear country



He always gets his virus

This year the University Cup—the highest honor for teaching and research excellence at the University was presented to **Lorne Tyrrell**, '64 BSc, '68 MD, professor of medicine and dean of Medicine and Dentistry.



"It's the closest chance I'll ever get to a Stanley Cup," laughs Tyrrell quickly adding that this eminent award, which acknowledges both research and teaching, is a special one.

The University Cup is an old soup tureen discovered in the basement of Athabasca Hall four years ago. The large bowl was refurbished—to show off its sterling silver shine—and mounted on a base made from the wood of a maple tree that once stood on campus. The cup is presented yearly to a faculty member who is both an outstanding educator and researcher.

As a virology researcher, Tyrrell uses what he calls a "full-out" method of research. He is persistent and has the attitude that not every virus is insurmountable, which he demonstrated with his discovery of a drug to treat chronic hepatitis B, which affects approximately 300 million people around the world. His work has earned him the Prix Galien Canada for Research and the U of A's J. Gordin Kaplan Award for Excellence in Research, both in 1998.

As an educator, Tyrrell has been recognized a number of times—five to be exact—by medical students as the medical school's Teacher of the Year. And in 1990 he received a Rutherford Award for Excellence in Undergraduate Teaching. 🐾

It's a *Done Deal*...

In November the University of Alberta Students' Union made the last payment on its 32-year-old mortgage on the Students' Union Building.

Opened in 1967, SUB was the design of Edmonton architect Herbert Richards. The original building was equipped with a bowling alley and a six-sheet curling rink, a meditation room with a giant skydome, a music-listening room, and an art gallery, which at one point featured 42 paintings by the Group of Seven.

The price tag on this innovative building was a hefty \$6.5 million. To pay for SUB, the Students' Union obtained \$2.25 million from the U of A's capital grants fund, and the remainder was borrowed from the province. SUB has gone through many changes through the years. Gone is the bowling. Gone is the curling. Ditto the music-listening room. But one thing has stood the test of time, SUB is still a friendly place where students, staff, and visitors gather to meet, drink java, and experience University life. 🐾



E-lectric Books

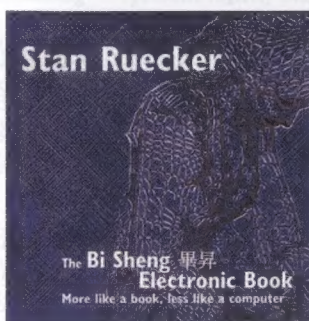
People have a thing with paper—we like reading words on hard copy. Even though the electronic age promised to bring with it a paperless office, we still tend to print out e-mails and Web site information.

This is one reason behind U of A researcher Stan Ruecker's electronic book, the *Bi Sheng*. "It is more like a book and less like a computer," says Ruecker, a graduate student in art and design. His concept uses electronic or digital paper divided into sections. These sections are loaded with text and graphics and then bound by a desktop printing device. The result is a spine-bound book with a cover. Named after the Chinese inventor of moveable type, *Bi Sheng* is what

Ruecker simply describes as "an empty conventional bound book with extra features."

These features means it's possible to search the text of the book electronically, store more than one title at a time, and write notes in the margin, says Ruecker. *Bi Sheng* can also be used more than once. "You can create your own library or just put it back into the printer and reuse it."

A user-friendly design, *Bi Sheng* was the result of extensive research by Ruecker, who discovered that there are at least three development groups working on prototypes for electronic paper. Ruecker has sent a synopsis of his results to Xerox, just one of the companies working on e-paper. "I would consider this project a success if it can help open the bounds of discourse about electronic books," he says. 🍄



To the Financial Rescue

The University is coming to the aid of students in financial need by depositing a record \$1.85 million into bursaries.

Individual bursary limits have been increased and there is more funding available, says Erika Schulz, director of emergency aid funding for the University's Student Financial Aid and Information Centre.

Schulz says emergency bursaries have been increased from \$1,500 to a maximum of \$2,000 (bursaries range from \$50 to \$2,000 depending on need), and students are now eligible to receive two bursaries during their University career—previously they were only eligible to receive one. Supplementary bursary maximums were also increased by \$500, and institutional opportunity bursaries, issued to first and second year undergraduate students in conjunction with the province's Alberta opportunities bursaries, were increased by \$150.

The move by the University was made in response to the increase in tuition fees and student debt levels. "One of our key responsibilities is to look after students who are most vulnerable to make sure debt loads do not get out of control," said Doug Owrap, vice-president (academic) and provost, in announcing the increased levels.

A Special Dedication Former Supreme Court Justice honored

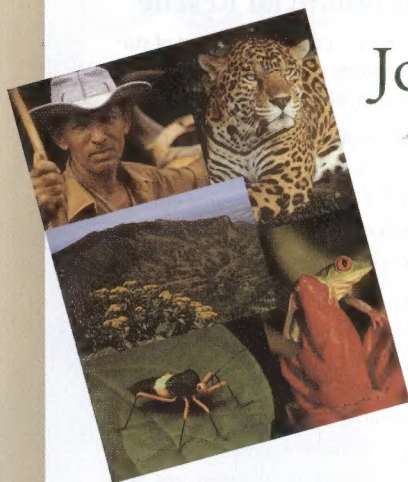
The year was 1955. Disneyland opened in Anaheim, California. The Second World War Allies signed a treaty to restore Austria's independence. And jukeboxes were playing 'Rock Around the Clock.'

It was also the year that the *Alberta Law Review*, successor to the *Alberta Law Quarterly*, was established. The *Alberta Law Review* is a legal journal produced quarterly by third- and fourth-year law students from the University of Alberta and the University of Calgary. One of its founders was the Honorable **William A. Stevenson**, '56 BA, '57 LLB, '92 LLD (Honorary), a former Canadian Supreme Court justice and U of A law professor, who was also the *Review*'s editor-in-chief in 1955.

When the *Review* moved into a house across the street from its former location in the Law Centre this past fall it dedicated its new residence at 11049 88 Avenue as the Honorable W.A. Stevenson Alberta Law Review House in recognition of Stevenson's outstanding contributions and continued support. 🍄



bear country



Joining Ecological Forces

Agreement promotes the value of biodiversity and conservation

It's official. The University of Alberta and Costa Rica's Instituto Nacional de Biodiversidad (INBio) have formed a partnership, making the U of A Canada's first institution to sign an agreement with this non-profit, scientific association.

This cooperative venture will provide U of A researchers with access to INBio's \$5 million US database that contains two million records of insects, plants, fungi,

and mollusks indigenous to Costa Rica. The agreement also allows for the exchange of faculty and students and will facilitate joint research efforts and publications.

"This is an important accomplishment for me and something I have been working towards since I came to the University" says Arturo Sánchez, who joined the Department of Earth and Atmospheric Sciences last year.

Sánchez says computer access to the database will provide researchers with information on a species, its conservation status, and locations of the species.

Students also benefit as the exchange program, "will contribute to the internationalization of students' education," says this assistant professor, and plans are in the works for the first group of 20 students to go to Costa Rica next year. 🐾

From the Far North

To commemorate the 100th anniversary of the signing of Treaty 8, a special display showcases artifacts from the University's O.C. Edwards' Collection

Dr. Oliver Cromwell Edwards was a medical officer who travelled with the Crown's Treaty 8 party in 1900 through the Lake Athabasca-Great Slave Lake region. While on his journey he collected bits and pieces of what is today an exemplary collection of turn-of-the-century artifacts. A special class project by students in Native Studies, *From the Far North*, showcases 19 pieces from the collection in a display at the Print Study Centre until the end of January.

The Print Study Centre is located at 3-78 in the Fine Arts Building. Students, researchers, and the general public may visit the Centre Fridays from 1 p.m. until 4 p.m. Visitors are asked to call ahead for an appointment.



These moose and caribou hide moccasins from the Edwards' Collection are decorated with porcupine quills and silk embroidery.

The music department's piano man

Whether it be a grand, a forte, or an upright, University piano technician Bruce Hettinger has tuned them all in his 25 years with the music department. Hettinger is responsible for close to 100 keyboards including harpsichords, a fortepiano, and two nine-foot Steinways, and with more than 200 concerts and events per year, Hettinger works in allegro mode.

Changing parts and strings, maintaining inventory, tuning for touch and tone, repairing, and rebuilding are all part of the job, he says. Not to mention the emergency situations. "It's unbelievable some of the things you find," says Hettinger. So what exactly has he found?

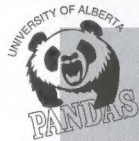
"Pencils," he says. "A million pencils." He jokes that he could supply the entire school system. He also finds lots of

paperclips. Then there's humidity. The problem—it isn't necessarily in the air. Drink spills are a problem, says Hettinger who has battled his own cola wars—finding ways to clean the sticky drink from an instrument.

It sounds like there are other situations he has run into, but he is opting for the "no comment" clause, hinting that it may just be unprintable.

A Dear Abby of sorts, Hettinger says, "When people have concerns about the cost of instrument repairs, quality of work, or what type of piano to purchase they often call the department and I return their calls."

A piano player himself, Hettinger is a big fan of the King of Instruments and works hard to keep the University's keyboards sounding as "perfect as possible." 🎹



Rugby Champions

Add another national championship to the University of Alberta's total. The Pandas rugby—in their first season as a U of A team—beat the Guelph Gryphons, 20-3, at the CIAU tournament held in Waterloo in mid-November. At the tournament the rugby team in what was their debut season had an impressive margin of victory—162-10.



Business is Booming \$1.5-million expansion

The room at the top of the U of A's Business Building was buzzing on 2 November 1999 as the Faculty of Business unveiled its expanded Stollery Centre and the opening of the Canadian Centre for Social Entrepreneurship.

After a few brief speeches in the original Stollery Centre a procession of almost 300 followed **Bob Stollery**, '49 BSc(Eng), '85 LLD (Honorary), into the new Executive Development Centre that boasts technological upgrades, an outdoor Japanese Garden overlooking the River Valley, and the Eric Geddes Strategic Management Facility.

Built by donations from Stollery and other benefactors, the \$1.5-million addition was plen-

ty overdue, says Stollery. "The present facility had a 95 per cent occupancy," he says. "I am delighted to be able to help the faculty during this very exciting time."

And these are exciting—and entrepreneurial—times at the faculty. The Canadian Centre for Social Entrepreneurship is the first of its kind to be part of a Canadian university business faculty. Modeled after Harvard Business School's Initiative on Social Enterprise and the Canadian Centre for Philanthropy, CCSE hopes to encourage entrepreneurial thinking and approaches in matters of social interest.

CCSE's executive director is **Gary McPherson**, '95 LLD



Dean of Business Michael Percy, Bob Stollery, and Shirley Stollery at the opening of the expanded Stollery Centre.

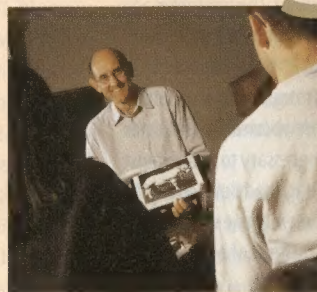
(Honorary). McPherson says that the importance of CCSE is to elevate the importance of not-for-profit sectors and to provide the business faculty with a better understanding of this community.

While the CCSE is still in its formative stages, two courses are scheduled for the first half of 2000. 🐾

The University of Alberta Blazing a Trail



Andy Liu, '72 MSc, '76 PhD
Faculty of Science



Mick Price
Faculty of Agriculture, Forestry,
and Home Economics



Jeanette Boman, '71 BSc(Nu),
'82 MA, '96 PhD
Faculty of Nursing



Erhan Erkut
Faculty of Business

Photos by Tina Chang, U of A Photoservices

It's a record-breaking achievement for the University as four of its professors received Canada's highest and most prestigious teaching award—the 3M Teaching Fellowship. It's the first time one university has claimed 40 per cent of the Fellowships in one year.

Established in 1986, 3M Teaching Fellowships are Canada's only national award for teaching excellence in undergraduate university teaching. Sponsored by 3M Canada and the Society for Teaching and Learning in Higher Education, the awards are given to professors who excel in teaching and demonstrate a high degree of leadership and commitment to the improvement of university teaching across disciplines. The University of Alberta, which has 22 3M laureates, has had more 3M winners than has any other university.

What a century it's been! As we stand on the verge of a new millennium, it's astounding to look back at the vast technological changes and scientific advances of the past 100 years. From Kitty Hawk to lunar walks. From mechanical calculating machines to supercomputers. From Model Ts to SUVs. Since the creation of the University of Alberta in the first decade of the past century, U of A

INNOV

BY RICK PILGER

ILLUSTRATIONS BY
MATTHIAS REINICKE

In 1967 a handful of British journalists gathered to witness a remarkable demonstration—a guinea pig happily living in a cage completely submerged in water. Its only protection was a transparent membrane which surrounded the wire-mesh cage. Through this amazing substance, oxygen and other gases were passing freely, sustaining the animal's life.

The inventor of the **magical membrane** was a young U of A graduate, **Nora Dietlein (Welbourn)**, '58 BSc, who had created it while working for her doctorate at the University of London's Royal Postgraduate Medical School. Much more than just a curiosity, the silicone membrane was a medical breakthrough. It closely mimicked the alveolar membrane which separates blood and gases in the lung and was specifically designed for

use in an artificial lung. Until Dietlein's breakthrough, heart-lung machines allowed direct contact between the patient's blood and air, and that restricted their use to a few hours at most.

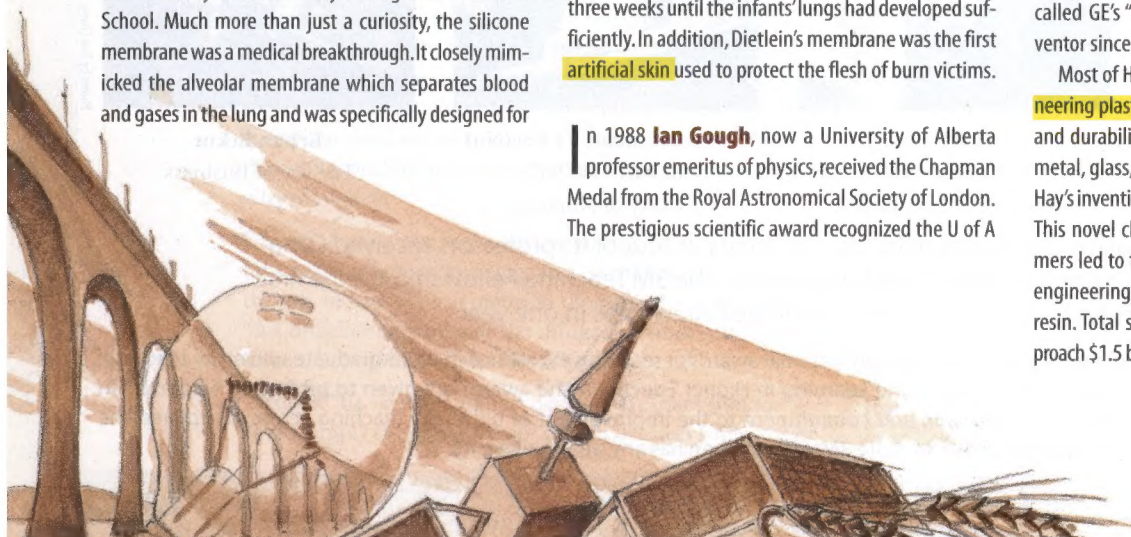
Many others had attempted to find a substance able to contain blood while allowing the free flow of oxygen into the blood and carbon dioxide out, but Dietlein was the first in the world to develop a truly workable membrane with the desired properties that could be produced in quantity. Commercial production of the membrane took place at Edwards Laboratories in California, with Dietlein as a consultant. The product made possible the creation of an oxygenator that could "breathe" for patients for up to 20 days. The oxygenator was also used to transport organs for transplant, and made possible surgery on newborn infants in cases where it had previously been necessary to wait almost three weeks until the infants' lungs had developed sufficiently. In addition, Dietlein's membrane was the first **artificial skin** used to protect the flesh of burn victims.

In 1988 **Ian Gough**, now a University of Alberta professor emeritus of physics, received the Chapman Medal from the Royal Astronomical Society of London. The prestigious scientific award recognized the U of A

faculty member's innovative work in the development and use of **magnetometer arrays** for the investigation of conductive structures in the Earth's crust and upper mantle.

When **Allen S. Hay**, '50 BSc, '52 MSc, '87 LLD (Honorary) left the General Electric Company in 1987 to accept a chair at McGill University, he left an incredible legacy in research and development at GE. With 86 U.S. patents to his credit, he has been called GE's "most important inventor since Thomas Edison."

Most of Hay's patents relate to **engineering plastics**—plastics whose strength and durability are such that they can replace metal, glass, and ceramics. In 1964 GE announced Hay's invention of polymerization by oxidative coupling. This novel chemical technique for synthesizing polymers led to the development of one of the five major engineering plastics in use today, PPO thermoplastic resin. Total sales of this plastic and its blends now approach \$1.5 billion annually.



people have been contributing their inventive spirit to many of the innovations that have shaped the world we live in. In this, our first issue of the year 2000, **New Trail** looks back and celebrates some of the many ways in which University of Alberta graduates and faculty members have been at the forefront of innovation in a century of unparalleled change.

GREEN AND GOLD



In 1980 Hay was appointed GE's research and development manager. In that position he supervised the work of 220 scientists and engineers and played a key role in the development of the company's engineering plastics business. Although best known for electronics, GE is today the world's largest supplier of engineering plastics.

Under Hay's supervision, GE developed ULTEM plastics, which combine high strength and rigidity with long-term heat resistance and account for more than 70 per cent of the volume of polyimide resins manufactured worldwide.

Hay, who now holds the Thomlinson Chair in Chemistry at McGill, was coaxed to McGill by another U of A graduate, **Leon St. Pierre**, '51 BSc, who was the first head of McGill's High Polymer Lab.

During the First World War, **Robert William Boyle**, the first head of the Department of Physics at the U of A and later the first dean of Engineering, was called to Britain to work with the antisubmarine division of the Admiralty Board of Inventions and Research. There he helped develop the first workable versions of **ASDIC** (which came about because of the efforts of the Allied Submarine Investigation Committee—thus the name).

Known to Americans as sonar, ASDIC involves the transmission of a highly directional sound wave through the water. If the sound wave strikes a submerged object—a submarine, for instance, or an iceberg—it is reflected back, the length of time it takes to return serving as an indicator of the distance.

When Boyle returned to Alberta in 1919, he and a small band of enthusiastic graduate students continued research in ultrasonics. One of these was **Don Sproule**, '28 BSc(Eng), '29 MSc, who was later the co-inventor of the **air echo altimeter**. Unveiled in 1937, this device was a forerunner of the modern radio altimeter used in aviation.

Harry Stevenson, '44 BSc(Eng), grew up with a fascination for airplanes and radio—two interests that would later combine in an invention to which many people owe their lives.

When Stevenson enrolled in the U of A in 1939, the future electrical engineer already had a good working knowledge of radio, and when war broke out, he was put to work instructing basic courses in radio operation to the servicemen training on campus. After he graduated, he enlisted in the navy, and his knowledge of radio was put to use at naval headquarters in Ottawa. At war's end Stevenson went to work as a scientist with the Flight Research Laboratory of Canada's National Aeronautical Establishment. It was while working there that he sought out and received permission to work on designing a reliable **crash position indicator** to guide rescuers to the scene of an aircraft crash.

Some efforts had already been made to equip aircraft with radio beacons capable of sending out distress signals that could be traced to their site of origin. However, beacons carried inside aircraft were useless in many crashes—they were either destroyed, were buried, or sank. Devices that had been designed to

launch themselves away from the aircraft at impact were no more reliable—because of their complexity, there were too many things that could go wrong.

After many years of development work, Stevinson was granted a patent for the crash position indicator, which has no moving parts and mounts on an aircraft body. At the time of a crash its leading edge—held by a spring-loaded latch—is forced up, allowing the onrushing air to lift the device away from the airplane, and it tumbles through the air, landing nearby. Its antenna, protected by a tough outer skin and shock-absorbing foam, is able to transmit a signal whatever its orientation to the Earth's surface.

When **George Sinclair**, '33 BSc(Eng), '35 MSc, graduated from the U of A with a master's degree in electrical engineering, he found a job at a radio station in Grande Prairie, Alberta. There he was responsible for the newscasts and the "Morning Bulletin Board." But it was the technical side of radio that he loved, and he soon headed south in pursuit of that passion.

In 1939 Sinclair arrived at Ohio State University intending to study for his doctorate. However, when the Second World War broke out he plunged into research into radar antennas. In short order—and with considerable assistance from another U of A alumnus, **Edward Jordan**, '34 BSc(Eng)—he had founded the OSU Antenna Laboratory. The lab did pioneering work using model techniques to find out what antenna designs were best suited to the different radar installations required for various types of aircraft, ships, and ground vehicles. It also made valuable contributions to counter-radar devices that dramatically reduced American air losses in the Pacific and were used to jam German radio installations on D Day.

By the end of the War the OSU Antenna Laboratory had 125 staff members, and for many years it was OSU's largest research unit. While directing the lab, Sinclair developed a technique for **measuring the radar echoes from targets**, and he is considered the father of the radar reflectivity measurement industry.

In 1947 Sinclair accepted a faculty position at the University of Toronto, where he immediately organized Canada's first PhD program in electrical engineering. In 1950 with another U of A graduate—**Peter Yachimec**,

'46 BSc(Eng)—he founded Sinclair Radio Laboratories, which soon became a world leader in many electronic fields. A Sinclair antenna originally designed for the Avro Arrow was salvaged when that project was scrapped and was eventually installed on every diesel locomotive in Canada, on many U.S. locomotives, and on the New York subway cars. SRL designed the main antenna for the Alouette 1 satellite, which launched Canada into the space age, and for a long time was the major supplier of concealed antennas for the FBI.

In addition, under Sinclair's leadership, SRL did pioneering work that virtually created the multicoupling industry, and another Sinclair company, Almax Industries, developed the world's best PZT ceramics (used in ultrasonic devices).

From 1968 until he came to Edmonton as the Killam Memorial Professor of Ecology at the U of A, **David Schindler** was the director of the Experimental Lakes Project, which he founded while working with the Canadian Department of Fisheries and Oceans.

In their best known experiment, Schindler and his Experimental Lakes research team divided a small lake into two using a plastic barrier and added controlled amounts of phosphates to one side. The resultant bloom in algae created a shocking two-tone lake and provided irrefutable evidence of the **damage caused by phosphates** in sewer runoff. Soon countries around the world were banning phosphates in detergents.

Schindler has also looked at the problem of acid rain, and his research has led to legislation controlling sulphur-dioxide emissions in many countries. His research has also earned him two major international prizes: the first-ever Stockholm Water Prize and the 1998 Volvo Environment Prize.

About 50 kilometres south of San Francisco, just west of the main campus of Stanford University, sits an incredible structure: the Stanford Linear Accelerator Center, which stretches toward the nearby hills for more than three kilometres. Here scientists fire electrons with energies as high as 18 billion volts into a target of liquid hydrogen and study the collision of electrons and protons.

And here, in a series of experiments between 1968 and 1973, **Richard Taylor**, '50 BSc, '52 MSc, '91 LLD (Honorary), and his colleagues provided the first **physical evidence for quarks**. Previously only a theoretical construct, quarks are now recognized as the building blocks of 99 per cent of all matter.

For this discovery, which ushered in a new age in particle physics, Taylor, a faculty member at SLAC, and his collaborators Henry Kendell and Jerome Friedman of MIT,

were awarded the 1990 Nobel Prize in Physics. When the prize was announced, their work was described as "ground research which has increased our understanding of nature and changed our picture of the world."

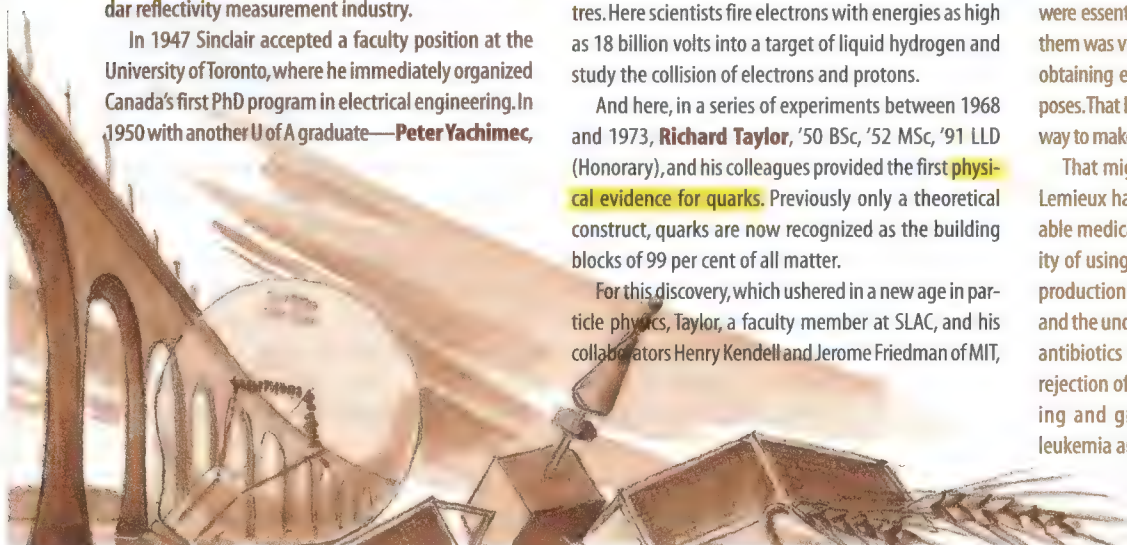
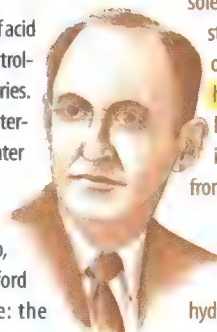
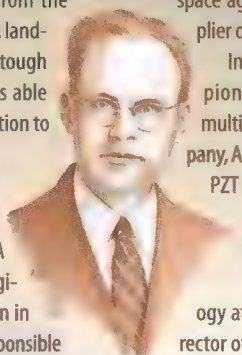
One of the most colorful characters in the history of the University of Alberta was **William Rowan**, the flamboyant professor of zoology who died in 1958. No other U of A researcher before or since has captured the imagination of the entire province the way Rowan did in the roller-coaster years of the 1920s and '30s.

For his most famous experiment, Rowan assembled 500 crows, which he kept in chicken wire cages in the river bank below campus. The birds were divided into two groups. The control group experienced the natural seasonal shortening of daylight, while the experimental group's cage blazed with artificial light that diminished the night in ever-increasing steps. When the birds were released the control birds either stayed put or headed south. Members of the experimental group followed their surging hormones northward despite the increasing cold. It was as neat a demonstration as could be imagined that photoperiod—the waxing and waning of daylight hours—was the **key impetus for avian migration**.

With characteristic modesty, **Raymond Lemieux**, '43 BSc, '91 LLD (Honorary), claims he merely put himself in luck's way on the road to changing chemistry—and medicine—forever. Lemieux has been almost solely responsible for moving the once-marginal study of carbohydrates into the mainstream of organic chemistry. His breakthrough showing **how carbohydrates bind** to proteins has had huge implications for the understanding of, in the words of one colleague, "everything from cancer to embryogenesis."

In 1961, after returning to the U of A to accept a faculty position in chemistry, Lemieux found a way to synthesize complex carbohydrate structures called oligosaccharides. When Lemieux began this work, scientists realized that these structures, which coat red blood cells and body tissue cells, were essential to cell-cell recognition. However, studying them was virtually impossible because of the difficulty of obtaining even minute amounts for experimental purposes. That hurdle was eliminated when Lemieux found a way to make a synthetic version of the carbohydrate.

That might not sound like a big breakthrough, but Lemieux had enough vision to recognize its considerable medical implications—particularly, the possibility of using the synthetic compound to stimulate the production of antibodies in the body. From this work and the understandings it has provided have come new antibiotics and blood reagents, drugs to prevent the rejection of transplanted organs, improved blood typing and grouping, and improved treatments for leukemia and hemophilia.



In 1941 **Clarence Johnson**, '34 BSc, '36 MSc, became part of what has been called the greatest single achievement of organized human effort—the vast scientific and industrial collaboration that produced the atomic bomb.

Johnson was a research associate at MIT, where he had earned his PhD, when he learned that his expertise could be of use in a top-level project of the U.S. War Department. When Johnson joined the **Manhattan Project**, he went to work for a company established for the sole purpose of producing enriched uranium to fuel a bomb. As head of research for Kellogg Corporation, Johnson tackled what proved to be the Manhattan Project's thorniest problem: the building of a barrier through which gaseous uranium could be directed to obtain fissionable material. The barrier material had to be both strong and flexible, with the right porosity to favor the passage of the U-235 isotope (the rarer of the two Uranium isotopes) needed for the construction of an atomic bomb.

Johnson supervised a staff of 300 and worked long hours into the night himself. For months success proved elusive. There were promising samples, but something always went wrong—whenever the porosity was

right, the material would prove too brittle or too weak. However, on the evening of 19 June 1943, Johnson and his assistant produced a sample that seemed to have the proper flexibility.

They went on to test the porosity. Two hours later the results seemed clear: after more than a year of agonizing failure, the gaseous diffusion project had a suitable barrier material for installation at the huge plant already being built at Oak Ridge, Tennessee. That plant—the largest construction under one roof in the world, when it was built—would have sat empty without a suitable barrier material.

Darol K. Froman, 26 BSc, '27 MSc, '64 LLD (Honorary) was one of 21 scientists in Enrico Fermi's group that first achieved **controlled nuclear fission** at the University of Chicago in 1942. After obtaining his doctorate in physics at the University of Chicago in 1930, Froman taught physics at the University of Alberta and then at McGill before returning to the U.S. to help with the war effort. Early in 1943 he was sent to Los Alamos to be a group leader in electronics.

Following the war, Froman was part of a joint military-scientific task force created to develop an

outdoor testing laboratory at Eniwetok atoll, located in the South Pacific, and he served there as the facility's scientific director.

After he graduated from the U of A's engineering physics program (he had chosen the aeronautics option), **Garry Lindberg**, '60 BSc(Eng), went on to earn a PhD in mechanics at Cambridge. Returning to Canada, he accepted a position at Canada's National Aeronautics Establishment, where he did pioneering work devising computer techniques to better analyse aircraft structure. He also became one of the pioneers of **Canada's involvement in space**.

When the National Research Council established the Canadarm project in 1976, Lindberg was made its director and set the course for the success of the undertaking that gave Canadian high technology unprecedented exposure. Later, as director of the National Aeronautics Establishment, he oversaw the creation of the Canadian Astronaut Program.

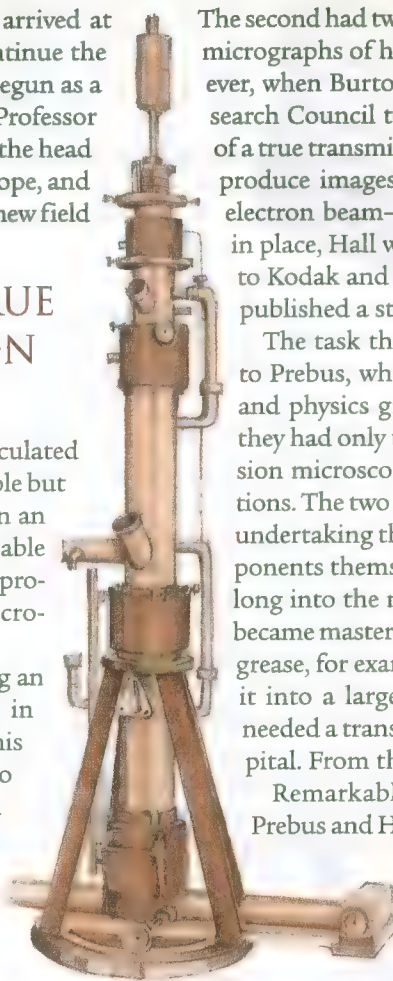
In 1921, five years after he had joined the U of A Faculty of Medicine, **James Collip**, '24 DSc, '26 MD, '46 LLD (Honorary), returned to the University of Toronto,

In 1937 **Albert Prebus**, '35 BSc, '37 MSc, arrived at the University of Toronto expecting to continue the work in atomic spectroscopy that he had begun as a graduate student at the U of A. When he met Professor E.F. Burton, however, all that changed. Burton, the head of physics, wanted to build an electron microscope, and convinced Prebus to desert spectroscopy for the new field of electron optics.

CONSTRUCTION OF A TRUE TRANSMISSION ELECTRON MICROSCOPE

For more than a decade physicists had speculated that an electron microscope was not only possible but might be capable of far greater resolution than an optical instrument. But so far nobody had been able to translate the theory into an instrument that produced usable images—the few published micrographs were distorted and blurred.

When Prebus arrived, a start toward building an electron microscope had already been made in Burton's lab. In 1935 Burton had taken under his wing another U of A grad coming to Toronto to study spectroscopy. As he would later do with Prebus, Burton convinced **Cecil Hall**, '35 BSc, '68 LLD (Honorary), to switch to electron microscopy. Hall undertook the construction of a simple electrostatic-emission type of electron microscope and completed two of them.



The second had two magnetic lenses with which he produced micrographs of hot cathodes magnified 3,000 times. However, when Burton sought funding from the National Research Council to allow Hall to attempt the construction of a true transmission electron microscope—one that could produce images of substances placed in the path of an electron beam—he was turned down. Without funding in place, Hall was forced to leave Toronto. (He went first to Kodak and then to MIT, where he earned a PhD and published a standard text on electron microscopy.)

The task that would have been Hall's therefore went to Prebus, who was teamed with a recent U of T math and physics grad James Hillier. For their undertaking, they had only their own wits, Hall's MA thesis, his emulsion microscopes, and a handful of translated publications. The two students approached their task with vigor, undertaking the construction of the most sensitive components themselves, often working in the machine shop long into the night after the day workers had left. They became masters of improvisation—for a suitable stopcock grease, for example, they used pure gum rubber, stirring it into a large beaker of boiling Vaseline. When they needed a transformer, they borrowed it from a local hospital. From the U of A, they borrowed two condensers.

Remarkably, only one year after they had begun, Prebus and Hillier were able to report success. They had built North America's—and, arguably, the world's—first true electron microscope.

where he had done his first degree, for a sabbatical leave funded by a Rockefeller Traveling Fellowship. In Toronto his expertise was soon called upon by a research team engaged in the study of a treatment to control diabetes.

When Collip came on the scene, Frederick Banting and Charles Best had only a crude, uncertain pancreatic extract. Within a remarkably short time, the U of A biochemist had isolated the active ingredient and the extract was administered to the first human patient, a severely diabetic 14-year-old child. The results were unambiguously favorable. Although it was still to undergo further refinement, **insulin**, as it came to be called, was a success, and John Macleod, who directed the research team, and Banting were awarded the Nobel Prize for Medicine in 1923. In accepting the prize, Macleod shared his award with Collip, and Banting shared his with Best.

In 1975 U of A biochemist **Norm Paetkau**, '63 BSc, observed that some T-cells (important to the body's immune response) involved in an experiment seemed to be producing some substance that helped their own growth.

In hindsight, it was a major discovery. Paetkau was intrigued, but most of his peers dismissed the observation as an unimportant curiosity. However, over the next few years Paetkau had two of his students—first **Gordon Mills**, '75 BMS, '77 MD, '84 PhD, and then **Jenny Shaw**, '80 PhD—investigate further. Eventually the product facilitating the proliferation of T-cells began to take shape as a molecule of real biological importance.

In 1979, at a conference in Switzerland, Paetkau suggested that the name "interleukin" be used as a general term to describe molecules that act between the cells of the immune system, and the substance that his lab was looking at became **interleukin-2**. About a dozen interleukins have now been identified and are being used therapeutically in many diseases, including cancer, autoimmune conditions, AIDS, and chronic infections.

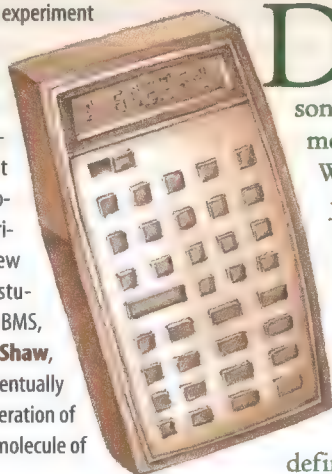
This past fall, **Russ Schnell**, '66 BSc, was named head of all U.S. government global climate observatories. The position took him to Boulder, Colorado from Hawaii, where he had been director of the Mauna Loa

Observatory. It was at Mauna Loa that evidence for the greenhouse effect was first recorded. During Schnell's seven years there, he was able to report a more positive finding: that the level of ozone-hole-producing fluorocarbons in the atmosphere had leveled out and was beginning to head down.

While Schnell has had a distinguished career, his most interesting discovery came while he was a summer student with the Alberta Research Council's hail project at Penhold. Schnell wondered why, if hailstones formed around tiny specks of dust in the atmosphere—which is what he had always been told—he saw most of the hailstorms forming not over dusty landscapes but over heavily vegetated areas. It was while investigating this apparent anomaly that he discovered the existence of living bacteria able to promote the formation of ice—so called **ice nucleating bacteria**. Through evolution these bacteria have developed the

Calgary Olympics.) On the other hand, removing ice nucleating bacteria is a proven method of protecting crops from ice damage. This is accomplished by spraying crops such as strawberries with special bacteria. The introduced bacteria—nearly identical to the ice nucleating bacteria but without the gene to promote ice formation—banish their dangerous cousins. As a result, crops that would have suffered frost damage just below the freezing point survive unharmed to almost -4°C , which can mean huge savings for produce growers.

Following his graduation from the U of A, **John Bell**, '75 BMed, headed to Oxford University as a Rhodes Scholar. Twelve years later, after a half-dozen years spent doing research in microbiology at Stanford, he returned to Oxford to accept a faculty position and pursue his interest in the **molecular genetics of autoimmune disease**. That interest has led to his identifying the genetic lo-



During almost 40 years with the Hewlett-Packard Company, **Bruce Wholey**, '42 BSc(Eng), was—in one way or another—involved in many of HP's major developments. In 1972 HP pioneered the era of personal computing with the first scientific hand-held calculator, the instrument that banished the engineer's slide rule to the history books. While Wholey, who died in 1993, was not directly involved in the project—"I just sat across the aisle from Hewlett while he was inventing it," he told *New Trail* in 1988—legend has it that his finger was used to decide the placement of keys on the keypad.

SCIENTIFIC HAND-HELD CALCULATOR

In addition, the calculator used Reverse Polish Notation (a way of expressing arithmetic expressions that avoids the use of brackets to define which calculations should be completed first) which Wholey had recalled hearing about in a lecture by U of A mathematics Professor E.S. Keeping.

Wholey, who was HP's vice-president for corporate services when he retired, first came to the company when the microwave countermeasures project he was working on at Harvard was transferred to HP after the Second World War. At HP, he helped develop the first of the modern microwave signal generators and got involved in spectrum analysis, which eventually became a major HP business segment.

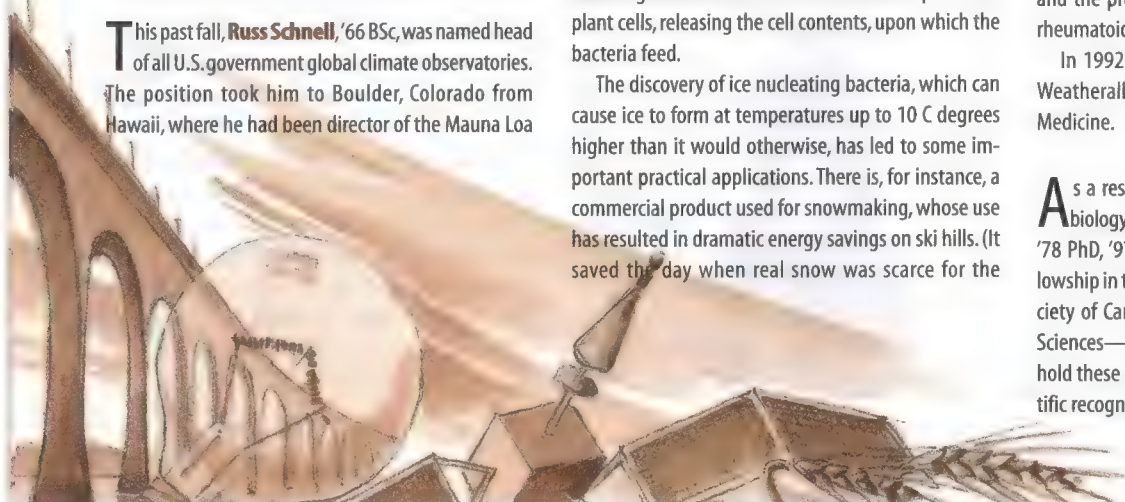
ability to act as a catalyst to the formation of ice. This is advantageous to the bacteria because the ice punctures plant cells, releasing the cell contents, upon which the bacteria feed.

The discovery of ice nucleating bacteria, which can cause ice to form at temperatures up to 10°C degrees higher than it would otherwise, has led to some important practical applications. There is, for instance, a commercial product used for snowmaking, whose use has resulted in dramatic energy savings on ski hills. (It saved the day when real snow was scarce for the

calculations involved in susceptibility to juvenile diabetes and the predominant genetic susceptibility factor in rheumatoid arthritis.

In 1992 Bell was appointed to succeed Sir David Weatherall as Oxford's Nuffield Professor of Clinical Medicine.

As a result of his contributions to plant molecular biology, **Christopher Somerville**, '74 BSc, '76 MSc, '78 PhD, '97 DSc (Honorary), has been elected to fellowship in the Royal Society of London, in the Royal Society of Canada and in the U.S. National Academy of Sciences—one of the very few people to concurrently hold these honors, which constitute the highest scientific recognition in the respective countries.



Somerville achieved this recognition for creating a system that speeds up identification of the plant genes that are responsible for any given characteristic of the plant. His innovative system utilizes the rapid-growing weed *Arabidopsis*, a member of the mustard family. *Arabidopsis* has become known as the **white rat of the plant world** because it contains less than one per cent of the genetic material found in the higher plants—making it relatively easy to isolate single genes in it and then locate comparable genes in economically valuable plants.



Look closely at a grazing herd of beef cattle and you are likely to see a medley of browns, blacks, and whites. Forty years ago when animal science professor **Roy Berg** was establishing the University's Kinsella Ranch in east-central Alberta such variety in a herd was rare. For centuries, cattlemen had strived for purebred uniformity.

SELECTIVE CROSS-BREEDING OF BEEF CATTLE

At Kinsella, Berg was able to show how selective cross-breeding of beef cattle—passing on desirable traits from a large variety of breeds—could improve production. Change doesn't come easily, however, and many beef producers were strongly opposed to Berg's ideas. It took more than a decade of carefully controlled cross-breeding to bring about change in the industry.

Today most of Berg's cross-breeding techniques have become the norm in commercial beef operations, and he has been inducted into both the Alberta Agriculture Hall of Fame and the International Stockman's Hall of Fame in Houston, Texas.

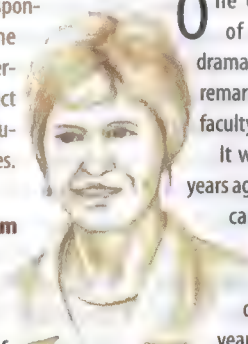
While the computer first emerged as a tool for scientists and mathematicians, it has also been a boon to scholars in the humanities. And nobody has been closer to the **evolution of humanities computing** than U of A English professor **Susan Hockey**.

Hockey's involvement in the field goes back to the late 1970s when she was with Oxford University's computing services group. There she was project director for the Oxford Concordance Program and project director for the first version of the manuscript collation program Collate. She also directed the Office for Humanities Computing from 1989 until 1991, when she left to become the first director of the Center for Electronic Texts in the Humanities, co-sponsored by Princeton and Rutgers Universities.

The author of *A Guide to Computer Applications in the Humanities*, Hockey was chair of the Association for Literary and Linguistic Computing from 1984 until 1997, when she came to Alberta. Hockey is the director of the U of A's Canadian Institute for Research Computing in the Arts and a co-investigator responsible for the technical direction of the Orlando Project. A ground-breaking literary history initiative, the Orlando Project is using modern technology to help illuminate women's writing through the ages.

Over a Sunday dinner in 1961, **William Youdelis**, '52 BSc(Eng), then a U of A professor of metallurgy, and his brother **Ralph Youdelis**, '55 DDS, had a friendly debate about the merits of their respective professions. That led to a challenge: the dentist challenged the engineer to improve on the **material used for dental fillings**. At the time, the amalgam widely used for fillings—essentially unchanged since its introduction in 1895—tended to darken, corrode, and fall out within 10 years.

Within two years, William Youdelis had developed a better dental amalgam, one that lasted twice as long. The new material, which he patented and called Dispersalloy, is now marketed around the world by Johnson & Johnson.



When **Paul Kebarle**, a professor emeritus of chemistry at the U of A, won the American Chemical Society's award for outstanding **achievement in mass spectroscopy** in 1994, he was credited with having revolutionized the "qualitative and quantitative thinking of chemists who deal with ions."

While Kebarle's work can be described as "pure" chemistry it has had a commercial spinoff. It has led to the manufacturing of analytical instruments capable of detecting extremely minute amounts of impurities in the air—enabling customs officials, for instance, to "sniff" for narcotics or explosives.

One of the most ambitious undertakings of our time is ahead of schedule and dramatically under budget largely because of a remarkable invention by a University of Alberta faculty member.

It was on an airplane flight almost a dozen years ago that chemistry professor **Norm Dovichi** came up with the idea for an **automated method of sequencing DNA**. He explained the concept to his graduate student **Jianzhong Zhang**, '94 PhD, and seven years ago the first working model of the device that has revolutionized DNA sequencing was completed. Not only was the device 10 times faster than the previous method, it could operate 24 hours a day unattended.

So popular is the automated sequencer that the San Francisco company that manufactures the \$300,000 item has sold some 1,300 in the past year. Many are being used in the effort to map the human genetic code—a massive undertaking because there are as many as three billion pairs of nucleotide bases that characterize the human genome.

With the help of Dovichi's innovation, the Human Genome Project is at present under budget by a factor of 10. It's also about five years ahead of schedule.

The technology that today coaxes **oil from the oil sands** in Northern Alberta differs remarkably little (except in scale) from the hot-water methods worked out by U of A mining professor **Karl Clark** and his students in the basement of the University's old Power Plant.

By 1950 Clark's pilot-scale plant at Bitumount, Alberta had proven that his process was commercially feasible. Unfortunately, he didn't live to see its full-scale implementation—he died just nine months before the Great Canadian Oil Sands Plant began production in 1967.

Although he admits to flunking chemistry in his first year of high school—that was before a teacher at Edmonton's Westglen High kindled his love for the subject—**Jack Williams**, '46 BSc, went on to become a senior research chemist at Eastman Kodak. There the research group he led contributed to many projects on the leading edge of technology—from the use of Mylar as a base for photographic film, to the Kodak color copier, to Kodak's optical disk technology. One of his group's major success stories came about largely fortuitously, when it was recognized that some of their sensitizing chemicals could prove useful for lithographic plates. Kodak was developing **long-run lithographic plates** (used for transferring ink to paper) for the printing industry to accommodate the multi-million-copy print runs of major consumer magazines. So effective were the chemicals that Kodak assured itself of a leadership role in the industry, and the plant in Colorado that manufactures the plates remains one of the state's largest manufacturing concerns.

U of A graduate **William Taciuk**, '54 BSc(Eng), is the inventor of the Taciuk process for extracting bitumen from oil sands or shales. His extraction method, which can also be used to treat contaminated soils, involves high temperatures. The oily material is fed into a special processor that rotates the material while heat is applied, and at the end of the process a pumpable liquid product is recovered.

Taciuk's process has shown great commercial promise for use with oil shale (twice as rich as oil sands), and a commercial prototype is currently being built close to Australia's large oil shale reserves.

One winter's day in the mid-1940s, **Carl Miller**, '35 BSc, '36 MSc, '71 LLD (Honorary), who had just gone to work for the Minnesota Mining and Manufacturing Company, noticed a brown leaf absorbing the sun's rays and melting into a snow bank. As it did so, its shape was perfectly preserved in the snow.

Miller had just graduated with a PhD from the University of Minnesota and well remembered the drudgery of long hours copying text materials by hand. His mind began to race—could he somehow use heat to mechanically transfer images from one paper to another.

To test the idea, Miller took cellophane wrap from a box of candy, coated it with a heat-sensitive salt, and then stretched it over a black image on a white paper. Using infrared light, he managed to transfer the image to the cellophane. It was the birth of what came to be known as thermography and eventually led to 3M's Thermo-Fax copying machine—the world's first convenient photocopying system.

Miller required nearly a decade and \$1 million in funding to make his dry copying process commercially viable, but 3M was amply rewarded for its perseverance. Miller's thermographic technology had a profound impact on 3M's business performance, and the revenues it generated helped fund important 3M research in the 1950s and '60s. In fact, his thermographic technology is credited with spawning at least five divisions of the current-day company and is still used in 3M's overhead transparency maker.

In 1985-86 University of Alberta professor of medicine **Lorne Tyrrell**, '64 BSc, '68 MD, taught part of a new graduate course in virology. One of the things he covered was the hepatitis viruses. Through the teaching, he became very familiar with the pathways through which the viruses replicated, and he felt that there should be ways to selectively inhibit them.

From that starting point, Tyrrell went on to develop the world's first drug for treatment of hepatitis B. There are an estimated 300 million people who carry the hepatitis B virus, and each year a million of them go on to develop cancer of the liver. Many others are afflicted by cirrhosis of the liver.

In 1996 **Tattanahall Nagabhushan**, '66 PhD, '95 DSc (Honorary), and a group of his colleagues at Schering-Plough Corporation published a paper describing how a form of interferon made on a space shuttle flight stayed in the bloodstream of monkeys longer than the interferon then in use. But Nagabhushan, who is Schering-Plough's senior vice-president for biotechnology said he didn't plan to pursue the project further—that the difference wasn't enough to "jump up and down about."

Nagabhushan's own accomplishments, however, are indeed worthy of jumping up and down about. He joined Schering-Plough in 1973 and immediately developed a series of successful antibiotics. That caught the attention of Schering-Plough's management, and in 1980 he was chosen to spearhead a pioneering effort in recombinant-DNA technology—the goal was to produce a protein known to stimulate the immune system.

Under Nagabhushan's direction, **alfa-2b interferon**, commercially known as Intron A, was isolated in crystalline form in the unheard-of time of only three years. He then led the project into large-scale production and regulation approval in 50 countries. A decade after it was first isolated, sales of the drug, used to treat cancer and hepatitis, had reached \$640 million.

During his 41-year career with Mobil Oil's research department **George Kokotailo**, '41 BSc, '46 Dip (Ed), '48 MSc, tackled a variety of problems. He investigated the premature corrosion of bearings on ships of the Cunard Lines—it turned out that there was too much sulphur in the oil they were using—and he tackled the dewaxing of oil, a problem with Chinese crude.

However, within the industry, Kokotailo is best known for his work with catalysts involved in the "cracking" of crude oil. His pioneering work using x-ray diffraction, electron microscopy, electron diffraction, and related techniques to help stabilize zeolite catalysts resulted in a 20-per-cent jump in the yield of usable products from a barrel of crude. And it pointed the way to related work that has resulted in refiners now being able to make use of up to 98 per cent of the contents of a barrel of crude oil.

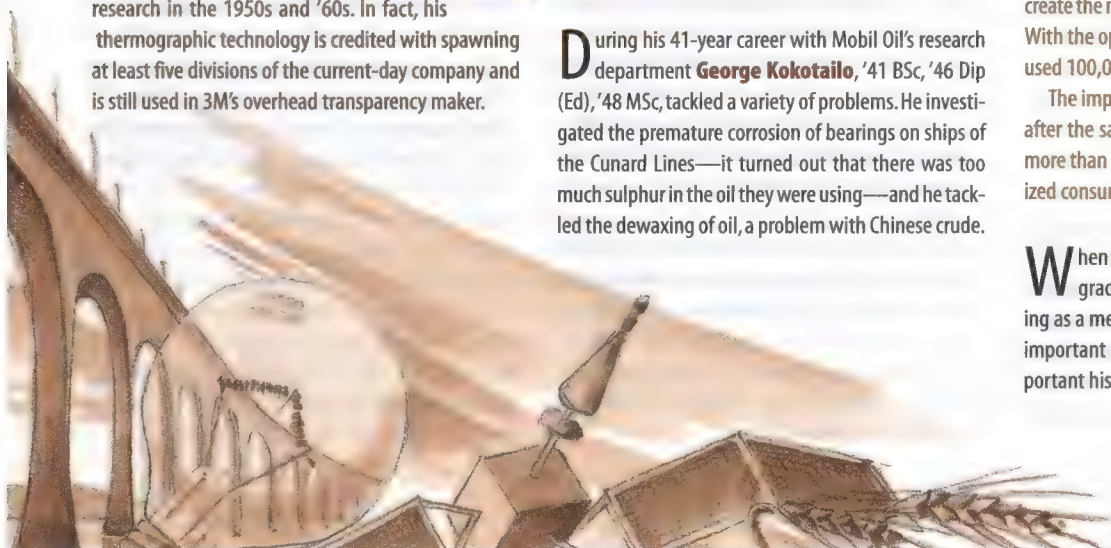
It's called the projection mask aligner. Most of us have never heard of it, but in 1980 the journal *Electronics* gave its prestigious achievement award to the three-person team that developed this device, which played a pivotal role in ushering in the age of low-cost, large-scale integrated circuits—the computer "chips" that made the digital revolution possible.

The projection mask aligner, which is used to print high-resolution patterns on silicon wafers, was developed in the early 1970s at the Perkin-Elmer Corporation of Connecticut under the trade name Micralign. The project manager on the Micralign design team was U of A alumnus **David Markle**, '58 BSc(Eng), who had studied in England after graduation and then went to work for De Havilland Aircraft. At De Havilland, Markle had developed an interest in optics, and his first project after he joined Perkin Elmer was a telescope designed for use on a space station—a telescope that could distinguish objects three-quarters of a metre apart at a distance of 1,600 kilometres.

Before the projection mask aligner, manufacturers had to rely on contact printing to create high resolution circuit patterns. Not only was this cumbersome, often leading to contamination of the wafer, it was far from cost-effective because the masks used to create the circuit patterns could be used for no more than 15 exposures. And the expensive chrome masters used to create the masks lasted for no more than 150 printings. With the optical Micralign technology, masks could be used 100,000 times.

The impact was immediate. Just a half-dozen years after the sale of the first Micralign device, there were more than 1,000 in the field, and the era of computerized consumer electronics had begun.

When **Eliot Corday**, '40 MD, '91 DSc (Honorary), graduated in 1940, cardiology was just emerging as a medical specialty. He had little idea then how important a specialty it would become—or how important his own role in it would be.



When **Joseph Charyk**, '42BSc (Eng), '64 LLD (Honorary), retired from his position as undersecretary of the United States Air Force—the number two position responsible for all activities of the Air Force—a grateful Department of Defense honored him with the Distinguished Service Award recognizing “exceptionally meritorious service.”

AGE OF SATELLITE COMMUNICATIONS

That was 1963, and Charyk, who had once been the Air Force's chief scientist, was taking on a new challenge. COMSAT (the Communications Satellite Corporation) based in Bethesda, Maryland had just been incorporated and Charyk became its first president. Under his hand COMSAT ushered in the age of satellite communications, and he was instrumental in developing the INTELSAT system that today serves more than 200 nations and territories.

Besides these involvements, Charyk played another important role—one that has only recently been made public. He was the first director of the National Reconnaissance Office established in 1961 to meet the U.S. government's need for spaceborne reconnaissance.

Corday did pioneering research on catheterization of the heart with Dickinson Richards who later won the Nobel Prize for the development of **heart catheter technology**. Later he worked with Arthur Master and Simon Dack, helping to develop their first **electrocardiograph (ECG) stress test**. That work led to Corday's development of the **ambulatory ECG monitor**, which he named the Holter system.

Later in his career Corday, who had been president of the American College of Cardiology, had an opportunity to be part of the **thawing of the Cold War**.

In 1985, U.S. President Ronald Reagan asked the American College of Cardiology to help re-establish diplomatic and cultural exchange with the U.S.S.R. To that end, Corday helped organize a two-way satellite broadcast featuring cardiologists in Moscow discussing new cardiac interventions with cardiologists in Washington. Just three weeks before the broadcast, Corday's Soviet contacts asked him to return to Moscow to rebuild the telecast into an even more important event. It turned out that Mikhail Gorbachev, the Soviet leader, wanted the broadcast to highlight the difference between mortality statistics of patients undergoing coronary heart bypass surgery in the U.S.A and in the U.S.S.R., although the figures greatly favored the U.S. The subsequent broadcast—a seminal step towards Perestroika—was a major Soviet television event and was rebroadcast there at least eight times.

In 1954 when **Dilworth W. Woolley**, '35 BSc, '58 LLD (Honorary) published his pioneering research paper entitled “A biochemical and pharmacological suggestion about certain mental disorders,” the relationship between the **biochemistry of the brain** and mental disorders was much less well understood than it is today.

After graduating from the U of A, Woolley had gone on to graduate school at the University of Wisconsin, where he was associated with the discovery of some of the B-complex vitamins—including nicotinic acid which was subsequently used to treat pellagra in humans. In 1939 Woolley joined the staff of the Rockefeller Institute for Medical Research in New York, where he soon became a full professor. His investigations of the biochemistry of brain disorders led him to an interest in serotonin. In the late 1950s he published a series of papers that suggested serotonin had a vital function in normal brain activity and posited that the effect of hallucinogenic drugs may result from their interference with the normal action of serotonin in the brain.

Serotonin is now recognized as a neurotransmitter, and some studies have linked altered serotonin levels to everything from bulimia and depression to violent behavior and Tourette Syndrome.

Following the Second World War, **Frank McClure**, '38 BSc, received the Presidential Certificate of Merit from U.S. president Harry Truman for his scientific contributions to the war effort. McClure, a professor of chemistry at the University of Rochester, had been busy with research on rockets and jet propulsion and had served as chief of the **rocket ballistics** and design division of the Allegheny Ballistics Laboratory in Maryland.

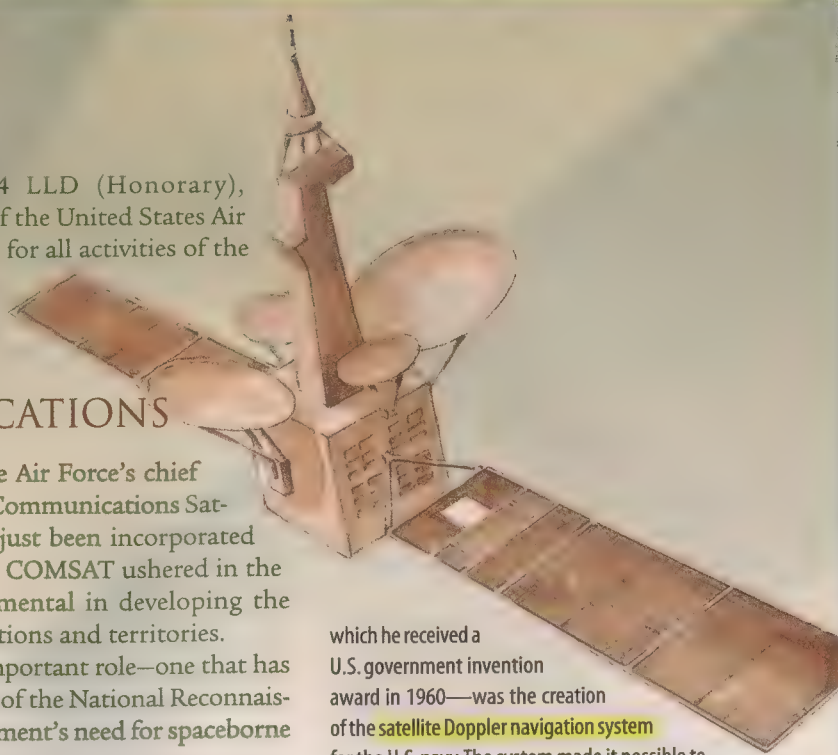
In 1964 McClure, then chairman of the Research Center of the Applied Physics Laboratory at Johns Hopkins University, received another U.S. government award—this time a high Pentagon citation for “inspired leadership” in heading a massive four-year effort to solve the costly problem of rocket shakes. However, McClure's most notable accomplishment—one for

which he received a U.S. government invention award in 1960—was the creation of the **satellite Doppler navigation system** for the U.S. navy. The system made it possible to fix with high accuracy the position of ships at sea, and was a forerunner of today's global positioning technology.

When **H. MacKenzie Freeman**, '56 MD, a pioneer in the field of **retinal detachment surgery**, operated on the late King Khalid of Saudi Arabia, the Saudi king was so impressed that he appointed Freeman chief medical planner for the building of the largest eye hospital in the world. (Completed in 1981, the King Khalid Eye Specialist Hospital was constructed with on-site recreational and housing facilities for 3,300 staff members and their families.)

Freeman was well suited to the job. The author of more than 170 scientific papers and six books in the field of retinal detachment surgery and ocular trauma, he gained worldwide recognition for developing novel surgical techniques for treating giant retinal tears. These techniques involve a special operating table that allows the patient to be suspended over the head of the surgeon. This allows the torn retina to unfold so that it can be reattached.

U of A civil engineering professor **James G. MacGregor**, '56 BSc (Eng), has played a major role in the development of standards and practices related to the building of reinforced concrete structures. That involvement earned him the major award of the American Society of Civil Engineers, which recognized his “noteworthy research on **reinforced concrete** and his sustained and effective contributions to the preparation of building codes in both the United States and Canada.” He also served for a number of years as the Canadian delegate to the committee that wrote comparable European codes.



When the Houston Astrodome, the world's first covered stadium, was built in 1965 it soon proved to be an unsuitable environment for natural grass, and the owners went looking for a substitute. Their search led them to engineering alumnus, **James Bromley**, '43 BSc(Eng).

The development of artificial turf actually began with a U.S. Army study that found that recruits who had grown up playing on concrete city playgrounds were more restrained in some combat-related situations than were their country counterparts. Reacting to this, the Ford Foundation approached Bromley, whose aptitude for invention—he has 29 U.S. patents and his milestone contributions include the method used to create yarns which bulk, making **stretch fabrics** possible, and the world's first antistatic carpeting—led him to an outstanding career in research and development with Monsanto. Could he invent a grass-like surface that could be used to soften school playgrounds?

With a bit of technical wizardry, Bromley was able to give them something suitable, and it was actually installed on one school playground—the one for which the Ford Foundation footed the bill. Schools, themselves, had other priorities for their money. The product didn't slip into obscurity, however. In 1966 it was dusted off and reintroduced to the world as Astroturf.

During a remarkably productive career as a research scientist in the electronics industry—he worked for both Motorola and GE—**Israel Arthur Lesk**, '48 BSc(Eng), was granted more than 60 U.S. patents. At GE he was credited with playing an important role in developing the **tunnel diode**. This semiconductor device, capable of functioning as an amplifier, an oscillator, or a switch through a broader range of frequencies than either vacuum tubes or transistors, continues to be important in certain electronic applications.

When he was with Motorola, Lesk was honored for an innovative method of **growing silicon crystals** for

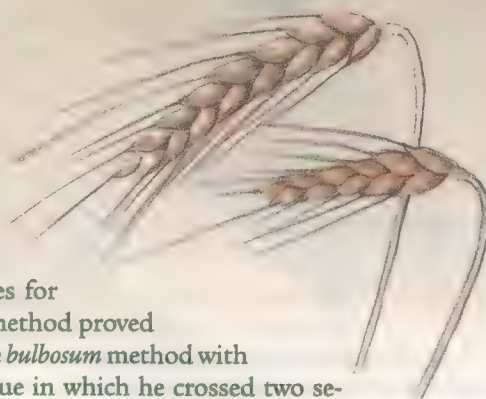


The development of new crop strains was always time-intensive, involving the growing of selected varieties through many generations to ensure that they will breed pure—all of the genetic inheritance having been depleted. However **Ken Kasha**, '57 BSc(Ag), '58 MSc, found a shortcut.

His innovative plant-breeding technique, developed at the University of Guelph, put Canada in the spotlight of world plant genetics. It is based on the haploid phenomenon—unlike normal plants, haploid plants have a set of single (unpaired) chromosomes.

INNOVATIVE PLANT-BREEDING TECHNIQUE

When the first haploid plant was discovered in 1922, researchers recognized that haploids could be used to produce pure-breeding lines for crop development, but a workable method proved elusive until Kasha's success with the *bulbosum* method with barley. Kasha worked out a technique in which he crossed two selected varieties of cultivated barley, took the resultant hybrid, and crossed it with the wild barley species *Hordeum bulbosum* to generate a wide variety of offspring, each with only a single chromosome—the chromosome inherited from its cultivar parent. When he found a plant with the characteristics, he would use established techniques to cause it to double its chromosomes. It would then be able to reproduce. And, it would be true-breeding, years before conventional breeding techniques could achieve the same result.



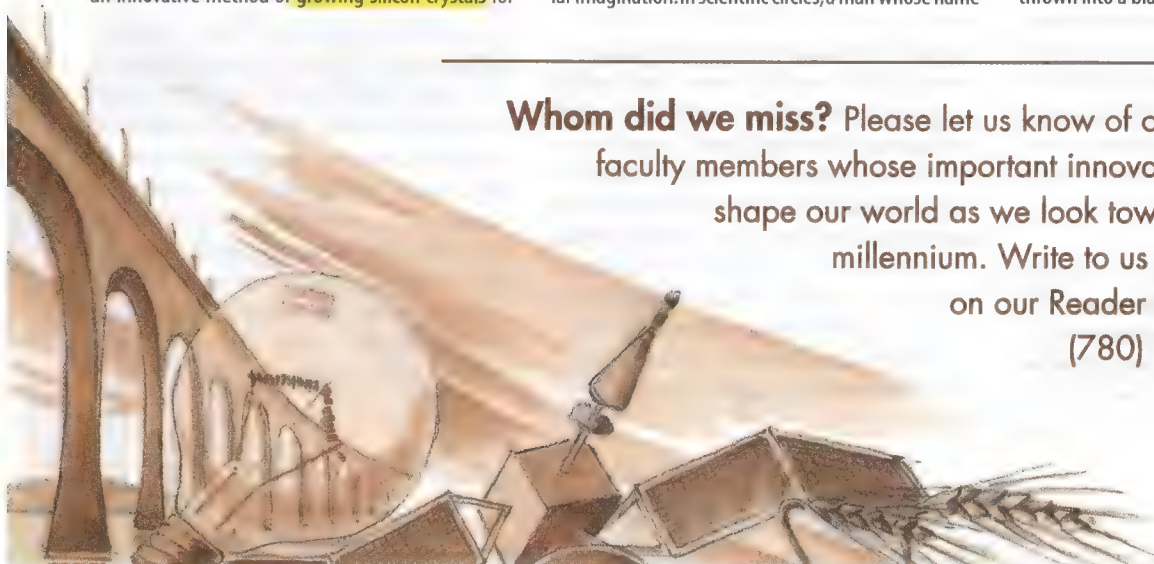
use in semiconductor manufacturing, and his method of reducing hydrogen contamination in the manufacture of integrated circuits is still in use around the world.

The notion of **black holes** in space emerged in the late 18th century as a result of the work of English physicist John Mitchell and the French mathematician Pierre Simon de Laplace. But it has only been in recent years that these cosmic oddities, from which neither light nor matter can escape, have captured the popular imagination. In scientific circles, a man whose name

is virtually synonymous with black holes is University of Alberta professor emeritus **Werner Israel**.

The Capetown-born astrophysicist joined the U of A mathematics department in 1958. In 1967 he put forth the idea that, once it is formed, a black hole can be described by a very small set of parameters which have been shown to be the total mass, the electric charge, and the angular momentum of any matter that went in to form the black hole. As a result, essentially all information about the detailed structure of objects thrown into a black hole is lost.

Whom did we miss? Please let us know of other graduates or faculty members whose important innovations have helped shape our world as we look towards the next millennium. Write to us or leave a message on our Reader Response Line, (780) 492-1702.



On November 3, 1999, the Association of Professors Emeriti of the University of Alberta celebrated the completion of their millennium project with the official launch of the book *Echoes in the Halls: An Unofficial History of the University of Alberta*. The publication includes stories from more than 80 retired professors who were witness to the growth and development of the University, some who had first arrived when the University was in its earliest formative years. As the authors record their memories of a variety of incidents and individuals that shaped Alberta's first university, many of them recall the circumstances of their arrival. For many of them it was their first experience of the Canadian prairies—as George Baldwin, a former University vice-president writes, “Nearly everyone on faculty at the U of A was from someplace else.” *New Trail* thanks the Professors Emeriti for allowing us to share with our readers excerpts from *Echoes in the Hall* that reflect on the experience of “coming to Alberta.”

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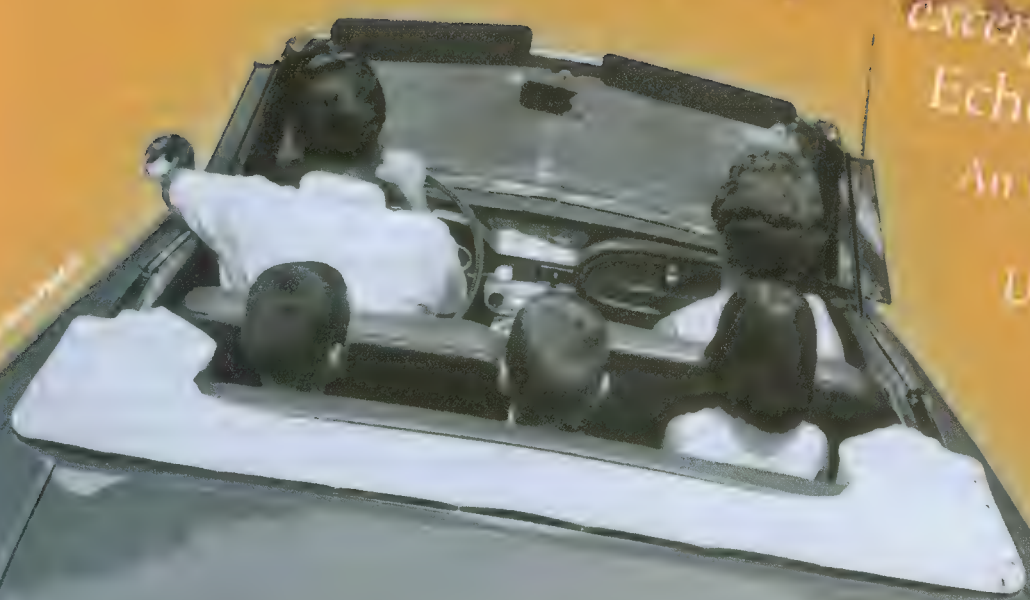
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coming to Alberta



excerpts from
Echoes in the Hall:
 An Unofficial History
 of the
 University of Alberta



Edited by
 David G. Galloway
 and
 the Association of Professors Emeriti

Flashback

1967

Flashback 1: September 1967

I arrive in Canada as a young bride, holding in one hand a contract as a sessional lecturer, duly signed by Dr. E. J. H. Greene, the last person ever to be "Head" of the Department of Romance Languages. In my other hand, I grasp a stack of precious papers amassed over the past six months, in order to get the landed immigrant status I need to teach in Canada.

I hold out the bundle of documents to the immigration officer, a tall, impressive fellow who looks down on my diminutive figure and bashful countenance, and half puzzled, half suspicious, inquires, "Romance languages?...You mean you are going to teach romance?"

I am flabbergasted; my feelings are hurt, my dignity ruffled; is there no avoiding the French girls' reputation of frivolity? Prompted by a pompous sense of my intellectual importance, I am about to try and explain to him priggishly the linguistic nuances between *romance*, *roman*, *romanesque*, *romantic*/*romantique*, all these pitfalls of the French and English languages known as *Faux Amis*/Treacherous Friends by bilingual instructors. Then I stop short, burst out laughing, look at him right in the eyes and remark flippantly, "Maybe!"

He appears embarrassed, yet slightly amused or...envious?...

Thus I start my romantic love affair with the University of Alberta.
—Nicole Mallet, Professor Emeritus of Romance Languages

In 1961, a year before completing my PhD in theoretical physics at the University of Liverpool, I started to ponder my future. There were three Canadians in the department at that time, two young postdoctoral fellows plus Harry Schiff, a physics professor on sabbatical from the University of Alberta.

One day, over coffee, I asked the two young postdocs if there were any good universities in Canada where I could apply for a postdoctoral fellowship (which is a sort of physicists' purgatory). One of them said to me, "How about the University of Alberta? Talk to Harry." The other offered a little extra incentive. "They don't do much physics there, but they have lots of money!"

I found this remark only mildly amusing, so you can imagine my puzzlement at the sight of these two fellows doubled over with raucous laughter. I knew nothing about the oil riches of Alberta at the time. In fact, I did not know where Alberta was on the map of Canada.

Two years later, in 1963, I remembered their advice. I wrote Harry a handwritten aerogram asking if there might be a job for me at the University of Alberta. He wrote back immediately, offering me a postdoctoral fellowship. For the first time, I looked up Edmonton in an atlas, expecting to find it somewhere in the frozen tundra.

Several physics professors at the U of A had links to the University of Liverpool. Among them was Avadh Bhatia (after whom the Physics Building at the University of Alberta is named). In 1963, he spent a sabbatical in Liverpool, along with his wife, June.

Over tea one lovely autumn afternoon, Avadh gave me some advice that would make my first day in Edmonton memorable: "Don't do what the Canadians do. You will see them go out in minus thirty-degree weather in shirt sleeves. At that temperature, exposed flesh freezes in a matter of a few seconds! Wrap yourself up well, even at the risk of looking a tad overdressed."

By the time my (then) wife and I left England, we had formed an image of an Edmonton where

grizzlies roamed the streets alongside gun-toting cowboys wearing Stetsons at a jaunty angle, chewing on blades of grass, swaggering bow-legged in their pointy boots with spurs and spitting like lizards in heat.

In fact, when I informed my father (in what is now Bangladesh) that I was going to Canada, he sent me some advice, as any caring father would. "Watch out for bears and wolves when you go to the outhouse. And don't answer the call of nature after dark, even it means doing some extra laundry the next day."

We arrived in Edmonton at 3:00 a.m. on the last day of October 1963, by a Trans-Canada Airlines' Viscount on a milk run from Montreal. The next morning we woke up late. We drew the curtains warily, fearing to see the ground covered in snow. Instead, to our surprise, we were greeted by a stunningly clear day. Limpid sunshine bathed the trees as I had never seen. It looked like a crisp, cold day.

It was too late for breakfast and too early for lunch in Athabasca Hall, so we decided to go downtown for brunch. Paying heed to

lo and behold, there were more of the crazy Canucks in their shirt sleeves!

Avadh's advice, I wasn't about to take any chances. I wrapped my head and upper torso in my Liverpool University Science Faculty scarf, a veritable blanket in bold blue and white stripes designed for survival in emergencies such as being marooned on the Hebrides. Thus mummified, I put on my thick tweed jacket and a pair of grey flannel pants. Having fortified myself thus, I donned a thick dark blue winter coat as a final defensive measure against the flesh-freezing weather. A pair of leather gloves completed my accoutrements. Only my eyes were exposed to the harsh outside world.

As I took my first few tentative steps outside, I attracted bemused looks from the locals, who were indeed walking about in their shirt sleeves—just as Avadh had told me! Good job that I was forewarned, I thought to myself.

We walked to the bus stop to go downtown, and, lo and behold, there were more of the crazy Canucks in their shirt sleeves! "Cold nuff fo' ya?" one of them said to me. As I felt the sweat beginning to course down my body in runnels, I have to admit that I was beginning to doubt the wisdom of Avadh's advice.

By the time the bus reached Jasper Avenue, I could feel my soaked shirt clinging uncomfortably to my body. I was swimming in my own sweat and on the verge of drowning. Just as we found a restaurant (well, actually more of an eatery, as there were no memorable restaurants on Jasper Avenue), we saw a neon sign flash the time and the temperature: 11:30 a.m. and 63 F!

You can imagine my embarrassment as I laboriously unswathed myself, layer by woolen layer, much to the amusement of the motley crowd assembled in the restaurant for their morning coffee.

—Abdul N. Kamal, *Professor Emeritus of Physics*

I CAME TO EDMONTON FOR A TWO-YEAR STINT AND STAYED A LIFETIME. HOW THINGS HAVE CHANGED!

I'll never forget my first day at the Faculté. As I entered the door, my heart beating fast with excitement, what did I see? A young woman washing her hair in the sink! When she saw me out of the corner of her eye, she quietly wrapped a towel, Hollywood-style, around her dripping hair and asked if she could help me. She was the secretary. Still in her Carmen Miranda "hat," she showed me to my office: a totally empty room, except for a phone on the floor.

Talk about first impressions! Keeping my cool—which over the years I became very good at—I decided to view the situation as simple culture shock. The shock continued when I went hunting for someplace to live other than my hotel room. Well, guess what? I was not able to rent or even to buy an apartment or a house. Why? Because I was a single woman!

In the course of my search for a dwelling, I chatted with many people and heard many stories. One person told me about a middle-aged woman who swore that she smelled roses every Saturday as she passed a statue of the Virgin Mary erected on the Faculté grounds. Her story had been passed from one person to another, taking on such proportions that an official inquiry was conducted. The findings: in the house next door to the statue, they did the laundry every Saturday using a rose-scented detergent!

—Gamila Morcos, *Professor Emeritus, Faculté Saint-Jean*

IN 1953, I ARRIVED IN EDMONTON TO LOOK FOR A JOB. It turned out that my taxi driver had just done the same. After checking his map of the city, he decided that the shortest route to the University campus was over the Groat Bridge. We found our way to the appointed place on the riverbank without difficulty, but lo and behold, either the bridge had sunk, or it had not yet been built. The latter proved to be true.

I eventually did manage to cross the North Saskatchewan River and became a U of A faculty member.

After spending five-and-a-half years in the San Francisco Bay area, coming to Edmonton was like entering a different world. Early in the oil boom days, the overwhelming impression was of mud. As the residential and industrial areas rapidly expanded, construction of paved roads and sidewalks could not keep pace, and there was little in the way of sod or landscaping to cope with the gumbo.

In those times, Edmonton's ballet performances were held in the Sales Stock Pavilion, for lack of a better venue. The makeshift platforms "whomped" with every graceful landing, and long, lonesome train whistles created melancholy discords within the music.

I remember being in Eaton's basement one Saturday, during our first November back in Canada, and being almost overwhelmed with nostalgia for the fresh daffodils that would have been blooming in our California garden. Grey November, with its bare deciduous trees and no snow cover, was (and is) surely Edmonton's bleakest month.

Nevertheless, even though our California employers had offered to keep our jobs open for a year, my husband and I decided to stay in Canada. For all of the most important things in life, we made the right move.

Since housing was extremely scarce in those boom days, the University provided incoming faculty with short-term accommodations in Pembina Hall, the ladies' residence. Every morning, I had to scout the hallway to make sure it was safe for my husband to emerge. Even then, he would back into the hallway from our suite.

In the big Athabasca Hall dining room, we all stood as grace was said (in Latin) before every meal. Proper dress and manners were the order of the day. Faculty members, a number of whom lived permanently in the residences, ate at a separate table. Dr. D. G. Revell, retired head of Anatomy, always had interesting stories to lighten the heavy discussion around the table. There was a definite pecking order at the table, with the junior professors being kept in their place while the more senior ones expounded at great length (the topics were no different than they are today, except in detail). This came as quite a shock after the casual and often irreverent atmosphere at the University of California.

—Mary Spencer, *Professor Emeritus of Plant Science*



most of us had children, the complex soon became known as 'Rabbit Row.'

WE ARRIVED IN EDMONTON ON A COLD SNOWY MORNING IN LATE DECEMBER 1947, AFTER A THREE-DAY TRIP BY TRAIN FROM SOUTHERN ONTARIO. I can still remember travelling slowly across the High Level Bridge in the department car as we followed a horse-drawn sleigh transporting the day's milk on its way to those Garneauites awaiting door-to-door delivery.

We'd been met at the station by a blue-nosed easterner, whose claim to this distinction arose not from the weather but from his place of origin, the rural valleys of Yarmouth County in Nova Scotia. This was our first meeting with Dr. Bob Hilton, the head of the division of horticulture, Department of Plant Science, a man who was to become a mentor, friend and colleague for the next 40 years. Bob was far more than a horticulturist; he was a person with a vast knowledge and a sense of humor greatly appreciated by both colleagues and students.

Earlier that year, the University had provided 12 townhouses, in three buildings, for the housing of new academic staff. The buildings stood at the corner of 87 Avenue and 112 Street, just south of St. Stephen's College, a space subsequently occupied by the Education and Household Economic Buildings.

If you were lucky enough to get one of these units, you were allowed to occupy it for four years. After that, your family was alleged to be wealthy enough to afford to go out on its own.

It was a great place to live. Our neighbors were all young and about the same age. Because most of us had children, the complex soon became known as "Rabbit Row."

We were a cosmopolitan bunch; in addition to the families of the Hiltons and Knowles, there were those belonging to a singer called Eaton, a tone-deaf soils specialist named Bentley, a geologist called Follinsbee, a play producer named Robert Orchard, a couple of chemists with the names Brown and Harris, a couple of Campbells (each with the first initial D), another Scot named Tweedie, a philosopher named Mardiros and an artist by the name of Jack Taylor.

The complex even had a father figure, Harry Sparby. Harry and his wife Cynthia, had no children, but he was the provost of the University and, therefore, deemed well qualified to serve our small community in this capacity.

During our time in Rabbit Row, many of the original group gave in to the urge to put down roots elsewhere. There was no shortage of suitable replacements, however. Families of Bakers, Goodales and Godfreys, Johnsons and Whiddens, Baldwins, Davys and Elders all applied for, and received, citizenship.

I don't think anyone, including the abundant offspring, would say that they did not enjoy their stay at Rabbit Row. We were a good social group, in spite of the fact that some of the men played bridge and the women had no time for it.

—Hugh Knowles, Professor Emeritus of Plant Science



EDMONTON HAS BEEN A GREAT PLACE TO LIVE AND WORK, but I would have been surprised to encounter anyone back in the fall of 1951 who would have picked it, given a choice.

People had been born there, of course—at least that was the popular belief, though you could not prove it by the makeup of the University I was joining. Nearly everyone on faculty at the U of A was from someplace else.

Since then, of course, some have come back after trying it elsewhere and even more have chosen to stay put because of what the city and its people have to offer.

But in the early '50s, for someone from Vancouver via the University of Toronto, Edmonton was scarcely a household world. In fact, I had to look it up.

Even then, my wife, Bobbie, and I had little to go on—a faint whiff of oil and gas somewhere north of the Calgary Stampede, a hint of far-out Social Credit doctrine and more or less interesting claims about the vastness of the city's green space and its low pollen count. What it did have, however, indisputably, was a surprisingly large river valley, the serpentine entrails of the place, apparently; and most important of all, proximity to the Coast and 1,700 miles between it and the Toronto we could no longer stand.

We never looked back when we left it—and all the rest of the effete East we had never come to know. I had jumped at Alberta's \$3,700 per annum for joining its seven-man Department of English.

With coveted job in hand and fire-sale Hillman (probably the single-worst car ever made to cope with Edmonton's winters: we took the battery in at night), it was Westward Ho! for my wife and me and newborn son. We headed for a place with oil, a river valley, weird politics and an absence, apparently, of stained-glass windows—a country at the outer edge of most known things, except for a university environment.

As a student, I had already come to love the University during my seven years in it and would, as professor, happily stay with it for at least another 33. There I pursued the most civilized and rewarding of activities in the lively company of bright and stimulating people, at least half of whom were perfectly normal. The other half included an absent-minded professor who, at a stop sign, got out of his car to assist a woman who had dropped her shopping bag and then hopped on a bus and went home.

That lay ahead, of course. For the moment it was exciting enough to set out for Edmonton, by a route simply picked off the map and never used since—through Glacier National Park and then straight north forever until the Calgary Trail reached Edmonton and 87 Avenue, where a sharp left turn towards the University seemed indicated.

You should try that particular route through Strathcona sometime: there isn't one. But two hours later, by now thoroughly conversant with back-street Edmonton, its sagging snow fences, clotheslines, telephone poles and garbage tins, we made it to the University-owned semi-detached house that was to be our home for a couple of years—two storeys complete with finished basement, fireplace and 10-foot by 20-foot garden plot right where the Education Building now stands, built at a cost (I am told) of \$13,000 a unit.

—R. George Baldwin, Professor Emeritus of English

Echoes in the Hall can be purchased from the University Bookstore or from the publishers.

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YOUR ALUMNI CAMPAIGN

Jim Baker is an alumnus ('75 BSc) of the University of Alberta who played with the Bears football team from 1971 to 1975. In the spring of 1999, Jim made a \$25,000 gift to the University of Alberta. The difference, however, between Jim's gift and many other similar-sized gifts is that the U of A won't actually receive this money until it receives the death benefits from an insurance policy on Jim's life.

Jim Baker is typical of many University of Alberta alumni. He feels that much of his success can be attributed to the many contacts and friendships made while at the U of A and more specifically—in his case—during his four years with the Bears football program. Consequently, the \$25,000 future gift will be used to establish a scholarship for Golden Bear football players enrolled in the Faculty of Science.

To understand why he would use this particular method to make a gift to the University, it might help to know that Jim is, by profession, a financial planner and life underwriter with a local life insurance and investment



Jim Baker, '75 BSc, is supporting his alma mater with a gift of life insurance.

company. As Jim explained, "Life insurance allows me to give something back to my alma mater in a very significant way and in a manner that is very affordable."

Jim's \$25,000 policy costs \$34.96 per month to maintain. The policy payments are tax deductible which means that, after using the resulting tax credit, the cost to Jim is only \$19.16 per month or approximately \$230 per year. Jim further explained, "My policy will be paid up in approximately 20 years; however, I do have the option of paying a bit more each year, resulting in the policy being paid up in 10 years or less."

The five-year University of Alberta CAMPAIGN, launched on 2 April 1997, will help determine the destiny and chart the course of the University for the next quarter century or more. The alumni portion of the CAMPAIGN was launched in May 1998. Its goal is to raise \$21 million, primarily for scholarships and bursaries.

\$21 MILLION FOR THE 21ST CENTURY

■ ALUMNI DONORS TAKE ADVANTAGE OF INNOVATIVE WAYS OF GIVING

Complementing the generous gifts of cash to the Alumni Campaign, many alumni are taking advantage of opportunities to provide for the future of the University through planned giving. Gift planning can take many forms but, in most cases, the gifts outlast a lifetime. The most common planned gifts are bequests or gifts of life insurance [see sidebar] but there are many other innovative ways of giving.

■ Publicly Traded Securities

For most of her career, **Jean Hugill**, '46 MD, was head of the department of anesthesiology at Vancouver General Hospital. Now retired, she is interested in making a significant gift to her alma mater to support pain management research in the Faculty of Medicine and Dentistry. To do so, she is taking advantage of the provisions of the 1997 federal budget that make the giving of publicly traded securities very appealing. Under the budget provisions (with some restrictions), a donor making such a gift would receive a tax receipt for the full value of the stock, but the taxable gain would be reduced by 50 per cent, thus allowing more of the resulting tax credit to be used to offset other income.

■ Charitable Remainder Trusts

When he enlisted in the Canadian army in 1939, **William S. Ziegler**, '95 BSc(Eng), had completed three years of the U of A's bachelor of engineering program. Ziegler had served as a captain in the militia, and he quickly rose through the army ranks to become Canada's youngest brigadier-general at age 32. He never

made it back to the classroom, but in 1995, when he was 84, the University recognized his many accomplishments by awarding him an engineering degree. When Ziegler died this past November, the University lost a good friend. But it will continue to benefit from his friendship, because during his lifetime he established a charitable remainder trust.

When an individual establishes a trust that is funded with securities, real estate, or cash, making an irrevocable gift of the remainder interest to a charity, they are creating a charitable remainder trust. Advantages derived from this type of gift include things such as personal tax benefits, a lifetime income, and no probate fees on the asset placed into trust.

■ Bequests by Will: The Ultimate Gift

In addition to teaching nutritional science to students in almost every faculty on campus during her teaching career at the University of Alberta, **Elizabeth Donald**, '49 BSc(HEC), did valuable research on, among other things, vitamin B6 requirements for women on oral contraceptives. To give something back to her alma mater, Donald is contributing a sum of money each year to create fellowships at the PhD and MSc levels. Down the road, she hopes to set up a scholarship for third and fourth-year nutrition students. In addition, she is supporting her endowment with a bequest in her will.

A bequest, sometimes referred to as "The Ultimate Gift" is one of the most common methods that individuals choose to make a planned gift to the University and is the crucial centrepiece for all estate planning.

For more information about innovative ways of giving, please contact the University of Alberta Gift Planning Office at (780) 492-0332, or call toll free at 1-888-799-9899.

TRAILS

FOLLOWING THE FOOTSTEPS OF UNIVERSITY OF ALBERTA ALUMNI



Impressions of Provence through the Bus Window is a collection of pen and watercolor drawings by **Marilyn R. Dyer, '53 Dip(Ed)**. While on the Alumni Association's Alumni Campus Abroad program in Provence, France, this summer, Dyer drew sketches of the many magical scenes she saw. Although the pieces were done quickly—she even drew some on her lap—many of her fellow-travelers were impressed at how well the collection captured the spirit of the trip.



DYER '99

Impressions of Provence through the Bus Window are available in boxed card sets. There are two sets available and each set contains 13 different sketches and 13 envelopes. To order a set, or for more information, contact the Office of Alumni Affairs at 492-3224, toll-free at 1-800-661-2593.

ALUMNI ASSOCIATION PRESIDENT'S MESSAGE

Reunion Weekend blew in on one of our stormy Edmonton days—the first snowfall of the year. Although the weather likely reminded us all of some of the cold, wet days when we walked the campus, it certainly did not dampen the excitement and joy of the weekend. U of A alumni—in record numbers—attended all the events, many starting with Wednesday's Annual General Meeting.



The entire weekend reminded me, once again, of how proud I am of the U of A and all that it does. At the Wall of Recognition Ceremony, I was moved as I watched videos that chronicled the lives of four outstanding alumni—Eric Geddes, Willie Littlechild, Bob Steadward, and Clare Drake—and heard their humble but inspirational responses. At the Chancellor's Reception, alumni from 1929, 1939, and 1949 patiently, but proudly, shared memories of campus and classmates. Imagine my own surprise at seeing grads from my home town, people that I had not seen since our University days. Reconnecting is such fun!

The Tuck Shop Breakfast fostered the inevitable debate among gourmands about whether these cinnamon buns were the kind that we had eaten when we were on campus. Saturday evening, almost 900 people enjoyed the Gala Dinner and Dance, with the older alumni seeming to be the most spirited of the evening—especially on the dance floor. Their indomitable spirit was again evident on Sunday morning, as they found a way through the barricades that had been set up around the Faculty Club (for "Run for the Cure"), to attend the President's Brunch.

Organizing Reunion Weekend is a huge task taking up thousands of hours in the months prior to it. I would like to thank Tracy Salmon and the Alumni Affairs staff for doing an incredible job. And thanks to the class organizers who assist us in reaching our special year classes and bringing them back to campus.

Alumni pride was evident everywhere at Reunion Weekend. They are obviously pleased to see their University grow in stature and prominence and look forward to its continuing growth and success in the new millennium. So, now, on to Reunion 2000!

Lucille Walter, '63 BEd, '77 Dip(Ed)
Alumni Association President

SALUTE TO VOLUNTEERS



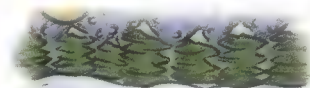
Michele Moon, '92 BSc (OT), a native of St. Albert and now a Canmore resident, is busy collecting opinions from fellow alumni regarding a first-ever barbecue and golf tournament to be held at the Three Sisters Stewart Creek Golf Club that opens next season. "Everyone I've talked with so far is excited about an alumni golf tournament, especially since it will be the first time for everyone to try out the new course," she says. Michele is also recruiting volunteers to help her plan this event. "Not being an avid golfer myself, I think it's important that some golfers get involved." For last year's Canmore alumni dinner, Michele assisted the Alumni Association with event details such as running a telephone campaign, collecting payment and registrations, and greeting guests at the event. Michele is currently an occupational therapist for the Canmore Pain Clinic. In her spare time, she teaches aerobics, hikes, runs, and cross country skis. With the beautiful environment so central to life in the Canmore area, Michele is eager for more involvement to occur around the associated outdoor activities most popular with Canmore alumni.

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THANK YOU

The Alumni Association is grateful for the support provided to Reunion Weekend by the following sponsors

- Meloche Monnex Inc.
- AON Consulting
- TELUS
- Goepel McDermid Inc.
- Maclab Enterprises Ltd.
- North West Life Assurance
- Syncrude Canada Ltd.
- Melcor Developments Ltd.
- Hole's Greenhouses and Gardens
- David Morris Fine Cars Ltd.
- Quality Color Press



What's happening with the U of A Credit Card?

The Alumni Association is dedicated to providing our members with the best possible services. As a result, we have been working hard to search out the best partnership, value and benefit in financial services for our alumni. While all the details have yet to be finalized, our new Alumni Financial Services package—including a new affinity credit card, general banking, loans, mortgages, and investment services—will be launching in Spring 2000.

Once again, the Alumni Association wants to thank the many alumni and friends who used our previous University of Alberta Affinity MasterCard. Your support has helped fund student scholarships and bursaries, alumni events on campus and abroad, and a variety of alumni services. We look forward to signing you to the new University of Alberta Affinity Card, and an expanded range of services, when they are launched this spring.

EVERGREEN

For more information, watch our Web site, www.ualberta.ca/alumni, check in the next issue of *New Trail*, or contact the Alumni Office.

Announcing new awards to recognize our alumni

The Alumni Association's Awards program has been expanded to recognize the great many University of Alberta alumni who are making outstanding contributions to the community and their professions. This year the Association is inaugurating three new categories of awards in addition to the Distinguished Alumni Awards.

The Alumni Awards of Excellence will recognize specific accomplishments of U of A graduates during the previous calendar year—things like elections to office, championships, awards, etc. Horizon



Awards will honor the outstanding accomplishments of alumni early in their career. The Alumni Recognition Awards will be given to recognize exemplary service to the community, professional accomplishments, or service to the University. The deadline for nominations is 29 February 2000. For information on nominating a U of A graduate for one of these awards contact the Office of Alumni Affairs.

Get ready for Reunion 2000

Do you ever wonder what happened to some of your classmates? Is there someone from your days on campus that you would like to see again. Reunion 2000 is a great opportunity to reconnect with friends and colleagues from your time on campus. The University of Alberta's Reunion 2000 is slated for September 14 - 17. All U of A alumni are invited to attend, but if your graduation year ends with a '0' or a '5' you are celebrating a special

Alumni Events

Branches

Lethbridge

7 January 2000

Cheer on the University of Alberta Golden Bears as they go up against the Lethbridge Pronghorns at the University of Lethbridge. Alumni reception to follow. For more information or to reserve tickets contact Les Talbot (403) 329-9119 or Pat Brown (403) 328-7496.

Fairfax, Virginia, Washington, D.C.

14 January 2000

George Mason University hosts the 27th International Saxophone Symposium featuring the US Navy Concert Band with William Street, U of A music

professor, as one of many guest soloists. Limited complimentary tickets. Contact 1-800-661-2593 for tickets and for information. All alumni & friends living in the Washington, D.C. area are invited!

Red Deer

22 January 2000

Alumni Reception with the Red Deer Symphony Orchestra featuring Tim Tamashiro. Special guest speaker will be Chancellor Lois Hole. Limited tickets available. Contact 1-800-661-2593 for information and to reserve your tickets.

New York

3 February 2000

Central Park Annual Pizza & Skating Party. Cost: \$3.50 per person.

For more information contact Marilyn Parker by e-mail at parkerma@juno.com

San Diego

12 February 2000

Alumni Reception at Birch Aquarium at Scripps. Guest Speaker: Dr. Roger Smith, U of A Vice-President (Research & External Affairs)

Phoenix

4 March 2000

Alumni Brunch

Grande Prairie

11 March 2000

Alumni Reception. Guest Speaker: Chancellor Lois Hole

Lethbridge

29 March 2000

Alumni Reception

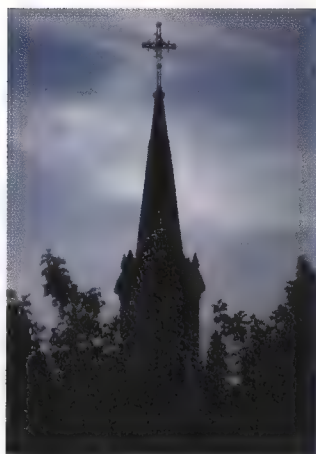
anniversary year and are particularly encouraged to come and celebrate.

The Office of Alumni Affairs is recruiting volunteers to help encourage their classmates to join in the Reunion 2000 fun. If you are interested in assisting the Office in organizing your class reunion, or if you would like more information about Reunion 2000 contact the Office of Alumni Affairs at (780) 492-3224 or toll free in North America at 1 800-661-2593.

Welcome back to St. Joe's Group

After a two-years hiatus, the St. Joseph's Alumni Committee has been reformed. The committee, consisting of 24 former college residents, recently passed a resolution asking to be formally recognized as a constituent alumni association. In the near future, the group plans to develop a constitution and review its membership criteria.

In addition to the move to formalize and define activities, the group plans to publish a



quarterly newsletter, organize social functions, update a 2,600-member alumni database, and support the mission and goals of St. Joseph's College, the only Catholic college at the U of A.

Alumni and friends of St. Joseph's College have renewed their ties and visited friends through a few special events organized by the group. St. Joseph's College participated in the Reunion Weekend festivities this fall with an alumni mass and an open house. The College's Alumni Committee also organized an annual dinner at the University's Faculty Club, where more than 125 alumni and friends gathered.

The president of St. Joseph's College, Fr. Timothy Scott, is particularly pleased with the

formation of an alumni association for the College. According to Fr. Scott, "relationships with alumni are among the College's most precious resources. They link our history with our future."

Anyone interested in becoming involved with the College's Alumni Association can contact the College at (780) 492-7681 or Richard Mallett, membership chair at (780) 428-0088.

New Alberta Alumni branches

Exciting news for those alumni who live in the communities of Bonnyville, Athabasca, Lac La Biche, Hinton and Medicine Hat. Alumni volunteers from each of these areas are working hard to establishing alumni branches. A total of over 2,500 alumni live in these Alberta communities and can expect news in the mail regarding these new alumni branches. Interested in forming an alumni branch in your area? Call the Alumni Office for more information; telephone 1-800-661-2593, toll-free anywhere in North America.

CLASS REUNIONS 2000

Reunion 2000 (R2000) will be held 14-17 September 2000. For more information on class reunions call the Office of Alumni Affairs at 492-3224.

Year & Class/Date & Place/Contact:

'40 Medicine/Calgary/Alfred Gander
'45 Nursing Dip (Sept)/R2000/Arlene Hanna

'45 Nursing Dip (Jan)/R2000/Alice MacKinnon

'45 Home Economics/R2000/Muriel Shortread

'45 Civil Engineering/R2000/Jack Longworth

'50 Chemical Eng/R2000/William Yurko

'50 Pharmacy/R2000/Drummond Cotterill/Mary Sereda

'50 Agriculture/R2000/Cyril McAndrews

'50 Civil Engineering/R2000/Charlie Weir

'50 Medicine/Calgary/Burns Larson

'50 Home Economics/R2000/Wilda Hurst

'50 Science (Honors)/R2000/H. Buckmaster

'55 Dentistry/R2000/St Stanley Kucey

'60 Law/R 2000/Lynn Patrick

'60 Mechanical Engineering/R2000/John Lepp

'60 Pharmacy/R2000/Lois Hunter (McLaren)

'70 Dentistry/R2000/William Swanson

'70 Medicine/30 June-2 July/Kananaskis/Michael Thain

'75 Pharmacy/R 2000/Ingrid Meier

'75 Home Economics/August/Janet McIntosh/Janet Lockau

'75 Metallurgical Engineering/R2000/Christian Jager

'80 Medicine/R2000/Brian Guspier

'80 Home Economics/R2000/Kathryn Chandler (Kermack)

'85 Business/R2000/Cathie Crooks

'90 Law/R 2000/C. Berman

Guest Speaker:
Chancellor Lois Hole

Medicine Hat 30 March 2000

Alumni Reception
Guest Speaker
Chancellor Lois Hole

Victoria Alumni Brunch 15 April 2000

Guest Speaker:
Chancellor Lois Hole

Vancouver Alumni Brunch 16 April 2000

Guest Speaker:
Chancellor Lois Hole

Florida (St. Petersburg) 29 April 2000

All Canadian Alumni Dinner
Guest Speaker: Dr. Brian Stevenson, U of A Associate Vice-President (International)

London Spring 2000

Guest Speaker: Dr. Doug Owram,
U of A Vice-President (Academic)
Watch for more details.

Constituent Groups

Business Alumni Association 5 January

Alumni Reception, Halifax
Call Elke Christianson at 492-1581

7 January 2000

Alumni Reception, Moncton
Call Elke Christianson at 492-1581

10 February 2000

Members Reception, Hotel MacDonald, Edmonton
Call Elke Christianson at 492-1581

Dental Alumni Association

10 March 1999

Members Reception, Vancouver
Pacific Dental Conference
Call Coleen Graham at 492-4523

25 May 2000

Members Reception
Jasper, ADA Conference
Call Coleen Graham at 492-4523

Medical Alumni Association

14 September 2000

Annual Dinner, Calgary
Call Coleen Graham, 492-4523

Other

Tempe, Arizona

Pub night at Four Peaks Brewery,
6-8 p.m. Meet other Canadian
alumni the first Thursday of every
month. For more information
contact Mila Mizhiritskaya by
phone at (480) 940-9488 or e-mail
mila.mizhiritskaya@AlliedSignal.com.

Come Back to Campus

Take part in the fun and excitement of Reunion Weekend 2000 by becoming a class organizer. For more information on how you can become a class organizer, contact the Office of Alumni Affairs at 492-3224 or toll-free at 1-800-661-2593.



TRAILBLAZERS

Going on Extreme Intuition

Peter Beyak is a risk taker in the sport of life.

By Zanne Cameron

Unlike the daredevil athletes in his hit Imax production, *Extreme*, who find peace of mind clinging perilously to sheer ice or rock, plummeting down 90-degree mountain faces, or cruising 12-metre waves, **Peter Beyak**, '89 LLB prefers solo runs along the winding trails of Calgary's Bow river.

But on a more fundamental level Beyak has much in common with the stars of the film that he produced and a Chicago Sun Times review described as "possibly the best Imax movie ever made."

Despite its focus on some of the most elite risk-taking athletes in the world, *Extreme* is not a film about athletic prowess. "It's about achieving, it's about will, it's about going to where you want to go and maintaining perspective throughout that process," says Beyak, whose own career has followed that exact pattern. He and director John Long portray this message in a pared-down, breathtaking Imax film that shows the power of the human spirit through the bodies and words of the athletes it witnesses. Its focus is the delicate balance they achieve with the natural world through their own intuition.

Intuition and personal challenge are Beyak's trademarks. His course from starving student to lawyer to movie producer is a story of hard work and intuition. "I always knew I wanted to do something in business—but I wasn't sure what," says Beyak. Like any serious athlete he made sure he invested time in get-

ting the basics, the tools that he would need to reach his goals, although at the time he was unsure where that might lead him. He spent his 20s in university getting his BCom at the University of Calgary and an MBA at Arizona State. After completing his MBA, Beyak chose to return home to Alberta to pursue a law degree. "I chose law partly for the challenge and also to augment my education in business," he says. "It was a level of accomplishment that seemed worthwhile—I wanted to see if I could do it."

He could and did. After completing his law degree, Beyak gave himself a time frame—five years—to practise law to gain experience he could later apply to business. "On the day after my fifth year anniversary I made the incredibly rash decision to retire," says Beyak, who hasn't looked back.

"It was one of those things," says the circumspect Beyak. "Basically I was following my heart by leaving law to go on with the next part of my life—not knowing what that was going to be." Incredibly, on the night of his retirement, at the ripe age of 33, Beyak took some friends out for drinks and dinner, when he ran into an old skiing buddy, Jon Long. When he told Long that he had just retired, Long suggested get-

"Basically I was following my heart by leaving law to go on with the next part of my life—not knowing what that was going to be."



ting together for lunch—there was something he wanted to discuss."

The result was *Extreme*, which since its release this summer in Canada, Europe and Australia has consistently placed in the top 30 grossing films worldwide, an amazing statistic for an Imax film.

"The original movie concept was Jon Long's," says Beyak. Long had been making adventure sport films on 16 mm and wanted to pursue his next



BOOKMARKS

project exemplifying the power of the human spirit using the power of Imax technology. "At that point in my life I had just made the decision to go ahead and live that type of life myself," Beyak says of his quick decision to support the project.

Producing the film was not easy, however. Neither Long nor Beyak had pursued a project of such magnitude before. "There was a reason to quit every day," says Beyak on his first film venture. "You always had that anxiety that you might not be making the right decisions or that this thing might be too big for you, but there wasn't a day that I didn't want to do it," he says. "Every time there was a significant stumbling block, something extraordinary would happen." Like the biggest waves Hawaii had seen in forty years showing up the day film production started. "It just made you think this thing was meant to be," says Beyak, who says that this project has taught him that anything is possible. "I am confident that I can do what I choose to do, and I think that opportunity flows from that."

Beyak, still immersed in negotiating the US and Asian distribution rights for *Extreme*, has no idea what his next project might be. "I haven't thought that far out, which is quite typical for me," he laughs, admitting that the five years spent putting the film together has meant a pretty precarious financial existence. But Beyak's intuition tells him his indeterminate future will be fine. In fact he feels more confident now than he did in his lawyer days. Beyak remembers questioning himself, wondering if he would ever pursue his dreams. "I don't ask that anymore—now there's nothing to ask." 🎓

Double Negative: A Vicky Bauer Mystery

Leona Gom, '68 BEd, '71 MA



Another compelling addition to the Vicky Bauer collection of tales about human complexity and deception. An accomplished novelist, Gom was hailed "a leader in the new Canadian mystery matriarchy," by NOW Magazine. (Second Story Press)

Weeds of Canada and the Northern United States

France Royer and Richard Dickinson, '85 BSc

With more than 750 color photos, this directory is the ultimate tool for weed identification with descriptions of more than 175 species. (Lone Pine Publishing and University of Alberta Press)

Ice: new writing on hockey

edited by Dale Jacobs, '88 BA, '93 MA

This collection of hockey-inspired poems, essays, and short stories pays tribute to the great Canadian sport. With 43 different voices, these tales provide what sports columnist Cam Cole calls, "hockey seen through unjaded eyes, spoken by fresh voices, and it reminds us of why we love this game." (Spotted Cow Press)



Rituals of Respect: The Secret of Survival in the High Peruvian Andes

Inge Bolin, '80 MA, '87 PhD

A collection of first-hand experiences by Bolin, the first foreigner to visit the isolated Andean community of Chillihuani, this ethnography describes annual rituals that date back to Inca and pre-Inca times. (University of Texas Press)

Inside Stories 1: Second Edition

Glen Kirkand, '72 BEd, Richard Davies, '71 BA, '72 Dip(Ed), '79 Dip(Ed)

This anthology of 28 contemporary Canadian and international short stories invites readers to "go inside and explore memorable imaginative and real worlds that await you..." (Harcourt Brace Canada)

Mental Skills for the Artistic Sports: Developing Emotional Intelligence

Murray Smith, '48 BEd, '74 PhD

Drawing upon decades of coaching and consulting, sports psychologist Smith writes a comprehensive book on mental skills training for athletes in artistic sports, taking coaches and athletes through the actual process of increasing emotional intelligence. (Johnson Gorman Publishers)



Dear Roses: A Wartime Romance Revisited by F/O Alexander G. Markle

Alexander G. Markle, '48 BA, '62 BEd, '65 MEd



This book of beautifully written letters was inspired when Markle discovered an old shoe box tied with a blue ribbon. Inside he found official Air Force communiqués that he had written during the Second World War. Unbeknownst to him, his wife had saved every one. (Canmore Printcraft)

Minds Eye Golf is Golf: Targetting and Aiming

Geoffrey Lucas, '61 BPE, '66 MA

Imagine a hole in one ... or at least a better golf game. This book written by Lucas, a tour caddy, golf researcher, and sport enhancement specialist, is about enhancing one's golf performance. A number of Tour players are cited and 17 original training exercises, such as visualizing golf movements, are provided that can be easily added to one's game. (Arizona Edge Publisher)



Contested Classrooms: Education, Globalization and Democracy in Alberta

edited by Trevor W. Harrison, '93 PhD and Jerrold L. Kachur, '95 PhD

A critical look at Alberta educational reform. Contributors examine issues from many viewpoints: teachers, principals, parents, students, and the community at large. An essential volume for those concerned about the future of education. (The University of Alberta Press/Parkland Institute)





CLASS NOTES

'50 Jim Hole, BSc(Eng), of Edmonton, a governor of the National Hockey League, and a past-president of Lockerbie and Hole Companies, the Edmonton Eskimos, and the CFL was recently inducted into the Alberta Business Hall of Fame established by Junior Achievement of Alberta.

'53 Ronald Southern, BSc, '91 LLD(Honorary) of Calgary, CEO and chair of Atco Ltd., and Canadian Utilities Ltd. was also inducted into the Alberta Hall of Fame for his outstanding business achievements and community service.

'61 Walter Saponja, BSc(Eng), was presented the 1999 Distinguished Service Award by the Canadian Electricity Association in recognition of his exceptional vision, leadership, and significant contributions to all aspects of the electric utility industry within the province of Alberta, Canada, and North America. Walter retired in 1998 after 37 years with TransAlta.

'63 Walter Harrison, BSc(Eng) has retired from Atomic Energy of Canada after working more than 35 years in the nuclear industry. Walter and **Ruth Harrison (Craig)**, '62 BEd, continue to reside in Deep River, Ontario, where Walter remains active as an independent consultant.

Jim Sorensen, BSc(Eng), of Calgary, was recently awarded a gold medal from Delta Hudson, Calgary, in recognition of the patent for a high propane recovery process, and he presented a paper on the process at the Gas Processors' Association meeting in Dallas. Jim is the technical director at Delta Hudson and has been the lead process design engineer on several world-scale sour gas processing plants in both Canada and the Middle East.

'64 Bonnie Reed (Parslow), Dip(RehabMed), and her husband, Bob, have retired to Parksville, B.C. to enjoy travelling, gardening, fishing, and relaxing.

'67 Anne Wheeler, BSc, '90 LLD (Honorary), critically acclaimed filmmaker, is the director of the recently released film *Better than Chocolate*. She resides in Vancouver.

'68 Shirley Hovan, BSc, '70 MD, was elected president of the Federation of Medical Women of Canada. Shirley is a member of the Northern Alberta Perinatal Education Committee and chief of long-term care with the David Thompson Health Region in Red Deer.

'69 Helen Boyle, BEd, was a teacher and principal in Vancouver at St. Joseph's school until 1989 when she semi-retired and accepted a position as teacher and librarian at St. Francis of Assisi. She retired in June 1999 and made the decision to move back to Edmonton.

Frank Cosentino, MA, '73 PhD, of Eganville, Ontario, recently had his booklet, *Afros, Aborigines and Amateur Sport in Pre World War One Canada* published by the Canadian Historical Association's Canada's Ethnic Group Series.

'70 Donald McLennan, MBA, was recently appointed Canadian ambassador to the Republic of Poland. After graduating from the U of A, Donald joined the federal Department of Industry, Trade, and Commerce as a trade commissioner and has served abroad in Hong Kong, Belgrade, Lagos, London, and Riyadh. In 1993, Donald was named ambassador to Iran. Since 1996, Donald has worked as director, policy and strategic planning division, at the Department of Foreign Affairs and International Trade. He and his wife, Judy McLennan, have three children.

'71 James Mitchell, BA, a partner in the Red Deer law firm Johnston, Manning, and Company, was appointed a judge of the Red Deer Provincial Court.

'72 Dale Ripley, BEd, '74 Dip(Ed), '91 PhD, is the new superintendent of the Edmonton Catholic Schools.

'74 Timothy Kemp, BA, of Shrewsbury, England, has recently established a small school at his home on the border with Wales. "Four students so far, but anyone interested in making contact with us would be welcomed. It is a great way of helping the kids to realize

that there is life beyond the cattle grid." You can contact Timothy at timkemp@firststep.demon.co.uk.

'75 Reginald Crawford, BSc, '84 MBA, of Fargo, North Dakota, has been the chief information officer for the North Dakota University System since October 1998.

David Hancock, BA, '79 LLB, the MLA for Edmonton Whitemud, now holds the justice portfolio, is the government house leader, and has a seat on both the treasury and the agenda and priorities committee.

'76 Simon Wan, BSc, '78 MBA, is now working with Philips Lighting as the general manager for China, based in Shanghai. Simon says Shanghai is "a city that you must visit, lots happening." **Kerri McLaughlin-Phillips**, BA, '79 BEd, is currently teaching English as a second language at St. Catherine Elementary/Junior High School in Edmonton. Kerri is the president of the English as a Second Language Specialist Council of the Alberta Teachers' Association.

'77 Randy Phillips, BPE, of Edmonton is currently working as a property agent for the City of Edmonton's asset management and public works department.

ment, land and buildings branch. Randy has received the designations of accredited appraiser of the Canadian Institute and senior right of way agent with the International Right of Way Association. **James Kong**, BSc(Eng), has been working with Shell Canada since 1985. In 1993 he accepted an expat assignment, working at Shell International in The Hague. He recently joined Shell International Oil Products in Amsterdam to work on global optimization projects. James and his wife, **Lily Kong (Lau)**, '78 BSc, have three children, and their eldest daughter is completing her first degree at McGill U.

Richard Brekke, BSc(Eng), was recently appointed president of Fortune Energy Inc. Richard brings to this position 21 years of oil and gas expertise. For the last five years he has served as vice-president, exploitation and production at Fortune Energy.

'78 Harold Chan, BSc, of Edmonton has a practice in financial planning services, including retirement, tax, investment planning, and risk management.

'79 Allan Frankiw, BSc (Eng), of Calgary is currently working for Union Pacific Resources Incorporated, where



Nigel Flook, '74 MD, of Edmonton recently received the Medical Alumni Association's 1999 Outstanding Achievement Award. Dr. Flook practices family medicine, is an assistant clinical instructor with the U of A's Department of Family Medicine, and is also the director of practice improvement for the College of Physicians and Surgeons of Alberta. In 1998 he received the Canadian Family Physician of the Year award from the College of Family Physicians of Canada and the Alberta Family Physician of the Year award.



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he is leading the newly formed mid-stream team.

Rita Altrogge (Stuart), BEd, is an English-as-a-second-language teacher for adults at Edmonton Catholic Schools and the School of Continuing Education.

'80 Jim Tayler, BEd, was recently appointed principal of Pincrest Public School in the Ottawa-Carleton District School Board. Jim continues to enjoy life in the nation's capital with his wife, Christine, and his children, Kathleen and Michael.

'81 Adam Grosser, BSc(Eng), writes, "The adventure continues. The whole Grosser family is now in Colorado after spending two wonderful years in Germany. "We are now experiencing the 'freedom' of the U.S.A., the awesome Grand Canyon, and the beauty of the Rockies." Adam is still with Hewlett-Packard, working as the worldwide marketing program manager.

Joanne Goss, BA, '84 LLB, of Edmonton was recently appointed a judge of the Edmonton Family and Youth Court. In 1994, Joanne was appointed the first

At age 101, **Harry Albridge Pearse** '19 BA, who attended the U of A during the First World War and survived the Spanish Influenza epidemic that shut down the U of A from mid-October to early-December 1918, is one of the University's oldest living graduates.

Pearse played an active role on campus. He was the president of the Students' Medical Club and sold advertisements for the *Gateway*. He also spent time working in the physics department marking papers for \$1.50 per hour and helping Dr. Boyle (who was involved in the invention of a submarine detection device during the First World War) in the physics lab.

After graduating from the U of A, Pearse studied at McGill University, where he received his medical degree. He practised for a couple years in New York before moving to Detroit, Michigan, where he practised at Harper University and Crittenton Hospital, serving as chair of the Department of Obstetrics and Gynecology. At age 85, he hung up his stethoscope and retired.

Born in the Northwest Territories on Sturgeon River Site—as it states on his birth certificate—Pearse has seen incredible changes. Unlike many who are apprehensive about the year 2000, this prairie pioneer says he's looking forward to it—"so I can live in three centuries," he says.

chartered mediator in Canada.

Sidney Hanson, MBA, of Edmonton was appointed president of Weldco-Beales Manufacturing Inc. and executive vice-president of NorTerra Inc. in July 1999.

'82 Janet Laddish, BEd, of Edmonton was recently elected vice-president of the Alberta Teachers' Association for a two-year term. Janet is currently teaching in the Elk Island Catholic Regional School Division with a speciality in special needs programs.



physical plant and capital planning services division. Darryl is an active member in several professional and technical associations and currently is the chair of the energy committee of the Ontario Association of Physical Plant Administrators and as the regional chair of the American Society of Heating, Refrigeration, and Air-Conditioning Engineers.

'83 Norman Nendsa, BSc, of Yellowknife is currently working for Secure-Check at Canada's first diamond mine, Ekati. Norman is also doing contract work for the federal government, geology department.

Kandis McLaughlin, BFA, went on to receive her MA from McGill U and is currently teaching at Portage College in Lac La Biche, Alberta.

'84 Kevin McKay, BA (RecAdmin), of Surrey, B.C., is pleased to announce that his wife, Grace, gave birth on 13 May 1999 to their first child, Zachary Raymond, who is "as cute as a button."

'85 Shirley Kachur, BA, of Calgary is anticipating a fall 1999 publication for her automotive book. Shirley continues



Serving coffee to homeless people in the wee hours of the morning. Opening up hundreds of gift-filled shoe boxes in a warehouse. Cleaning up after a rock festival. What do these three things have in common? They may just be a chance to meet Mr. or Ms. Right.

That's the premise behind the Single Volunteers of Calgary. This not-for-profit organization is headed by modern-day matchmaker, **Adele Sanoy**, '92 BEd, '94 MEd, who helps non-profit organizations in the Calgary area by providing groups of single volunteers to help out with events.

This innovative alternative to dating services or personal ads was inspired by a newspaper article about a similar organization in Washington, D.C.

"I read it and thought, what a wonderful idea," says Adele. And without skipping a beat she admits, "I also knew it amounted to a whole lot of work."

So without much delay—only

OFF THE BEATEN PATH

about two months—and with a little help from her friends, Sanoy created a Calgary chapter of the organization called Single Volunteers, which has, in total, 14 chapters, including one Down Under.

Single Volunteers of Calgary received its official, non-profit status in February 1999, and it is one of two Single Volunteer chapters in Canada—the other being in Toronto. Although SVC's numbers are nowhere near the 7,000 members that are part of the Washington Club, the Calgary chapter continues to grow in large spurts—from September to October of this year membership increased by 100 (most members are in their 30s or 40s).

The growing success of SVC is the result of Sanoy's focused energy coupled with her desire to make SVC work for the volunteers and the organizations. "It is a great way to meet so many people—male and female—and it is a way to give to the community," she says.

Sanoy explains that the mix between charity work and mingling is met by piggybacking volunteer work with a social event and providing opportunities for interaction between volunteers at the events. And there's always an equal mix of males and females—Sanoy makes sure of that.

Currently Sanoy is immersed in planning SVC's next event—helping Operation Christmas Child, a program that sends gift-filled shoe boxes to children in desperate situations around the world. SVC's task will be to open hundreds of boxes to make sure certain standards—such as no perishables—are maintained.

If this doesn't sound like a typical singles club, it's not, emphasizes Sanoy. "It's a chance to meet people with similar interests in a non-threatening environment."

Sanoy compares her experience with SVC to her days on campus. "I loved being at the University—the



Bix Studio

energy—and the opportunity to meet all types of people," says Sanoy, admitting that's what she really missed when she graduated. "SVC kind of brings me back to that point—to that same height of excitement and diversity."

And like it did in her student days, Sanoy's schedule often extends into evenings and weekends. She doesn't mind. "I believe in this so strongly and want it to succeed," says Sanoy, who devotes up to 40 hours a week working on SVC.

However, there is a glitch. If Sanoy meets her perfect match, she would have to resign from the association to uphold the singles-only rule. But under such circumstances she says, it shouldn't be a tough choice. "Then I would be off finding something else similar to do to replace it." —J. Litwin

IN MEMORIAM

The Alumni Association has noted with sorrow the passing of the following graduates:

'26 Darol Kenneth Froman, BSc, '27 MSc, '64 LLD (Honorary), of Santa Fe, New Mexico

'28 David Sigler, BA, '31 LLB, of Vancouver in March '99

'30 Alexander Cotsman, Dip(Ed), MA, of Edmonton

'31 Joichi George Kato, MD, of Edmonton in October '99
Charlotte May Powell, BA, Dip(Ed), '43 BEd, of Honolulu, Hawaii in September '99

Jean Alice Stokes (Reid), BCom, of Victoria in September '99

'33 Harold Lance Hurdle, BSc(Eng), of Beaconsfield, Quebec in August '99

'35 John Ronald Munro, BCom, of Edmonton in October '99

'36 Russell John Allen, BSc(Eng), of Vanier, Ontario in October '98

'37 Edna Christine Fadum (Olesberg), Dip(Nu), of Calgary in November '99

Harold Lane Richard, MD, of Edmonton in May '99

'38 Christina M. Willick (Robertson), BSc(HEC), of White Rock, BC

'39 Arthur Edward Goddard, BA, of Calgary in November '99

'40 Andrew Boyd Garrett, BA, of Edmonton in October '99

'41 Lucas Joseph Ehly, BSc(Eng), of Caroline, Alberta in November '99

'42 William Bruce Hunter, BCom, of Edmonton in August '99
Thomas Neale Roche, BA, '49 Dip(Ed), '50 BEd, of Calgary in June '99

'43 Peter John Sereda, BSc(Eng), '44 MSc, of Ottawa in October '99

'47 Clare Leroy Liden, BA, '51 LLB, of Edmonton in September '99
Harold Alexander MacNeil, BEd, '48 MEd, '77 LLD (Honorary) of Edmonton in October '99
Irene Margaret Robertson, Dip(PHNU), of Victoria in August '99

'48 Raymond Clarence Carran, BEd, '61 MEd, of Edmonton in August '99
Norman Aloysius Dawson, BA,

of Calgary in October '99
Allan M. Edwards, BSc, '50 MD, of Edmonton in May '99

Alfred Sten Gunderson, Dip(Ed), '49 Dip(Ed), '70 BEd, of Edmonton in July '99

Kilburn Dougall Urquhart, BSc(Ag), of Pembroke Pines, Florida in April '99

'49 Bruce Cravath Bell, BSc(Eng), of Edmonton in September '99
William Chmilar, BSc(Eng), of Calgary in August '99

Sheila Monica Hadley (O'Neill), BA, of Ottawa in July '99

Kenneth MacKenzie, BSc(Ag), of Foremost, Alberta in October '99

James Alexander Mair, BSc, of Calgary in November '99
Allan Wallace Peterson, BSc(Ag), '52 BSc(Eng), '54 MSc, of Edmonton in October '99

William Robin Richards, BSc, of Golden Lake, Ontario in May '98
John Charlton Saunders, BSc, of Spruce Grove, Alberta in August '99

Edith Moody Taylor (McRoberts), Dip(Nu), of Edmonton in September '99

'50 Edward Wayne Burkell, BSc(Eng), of Kamloops, BC in June '98

Rudolph Dressler, BEd, of Innisfail, Alberta in November '99

Stephen Dubetz, BSc(Ag), of Cochrane, Alberta in August '99

John Leonard Dunkin, BSc(Eng), of Calgary in September '99
James Wilbert Hawthorne, BSc(Eng), of Sarnia, Ontario in November '99

John Ross McGregor, BSc, '52 BEd, '55 MEd, of Sherwood Park, Alberta in September '99

Stephane Snow Sears, BA, of Nanton, Alberta in September '99

'51 Lorin Dehlin Allred, BSc(Eng), of Calgary in July '99
Barbara Elspeth Dickinson, Dip(Ed), of Red Deer in August '99
Canute Walter Nelson, Dip(Ed), '55 BEd, '63 BSc, of Calgary in October '99
Frederick Albert Mitchell, DDS, of White Rock, BC in February '99

'52 Gwendolyn Lucille Daley, BEd, of Vancouver in September '99
Mervyn Norm Eastman, BEd, '61 BA, '63 MEd, '66 MBA, of Edmonton in July '99

Kenneth Gordon Ellestad, Dip(Ed), '54 BEd, of Kelowna, BC in August '99

Kamio Sawada, BSc, '55 MD, of Vernon, BC

John Leon Snith, BA, '53 LLB, of Calgary in August '99

Gordon Daniel Vail, MD, of Mission Viejo, California in September '99

'53 Marc Ambrose Lemay, BCom, of Edmonton in September '99
Lennox Allister MacLean, LLB, of North York, Ontario in September '99

'54 Denis Joseph Cote, BSc(Eng), of Calgary in November '99

'55 Georgina Craig (Stagg), Dip(Ed), of Red Deer in November '99

James Alexander Rutherford, BSc, of Vancouver in October '99

Annie M. Tennant, BEd, of Lethbridge

'56 Minerva Burnham, Dip(Ed), of Vernon, BC
Earl Richard Milton, BSc, '58 MSc, '62 PhD, of Calgary in November '99

'57 Carman Colette Brosseau, BEd, of Edmonton in September '99

'58 Helen Anne Johnston, BEd, of Edmonton in September '99
Robert Louis McDonald, BA, of Montreal in July '99

Murray Marshall McKay, BSc, of Edmonton in August '99

'59 Donald William Branigan, BSc, '63 MD, of Whitehorse, Yukon
Miroslaw William Krywaniuk, BEd, of Andrew, Alberta in March '99

Gerald Robert Zetter, MD, of Edmonton in October '99

'60 Benjamin Alexander Laidlaw, BPE, '61 BEd, of Peachland, BC in August '99
Chancey Claire McMann, BEd, '64 BA, of Watrous, Saskatchewan in July '99

'61 Laurence George Decore, BA, '64 LLB, '99 LLD (Honorary) of Edmonton in November '99
Frank Murray Neilson, BSc(Eng), of Vicksburg, Mississippi in January '98

'63 Eugene Czajkowski, BSc, '87 BEd, of Edmonton in February '97
Elizaveta M. Lucich, BEd, of

Edmonton in September '99
Roderick Gilbert MacLeod, BCom, of Vancouver

Gerard Henri Michaud, BA, of Edmonton in May '99

'64 Anthony Richard Morgan, PhD, of Edmonton

'65 Ernest Wayne Clendenning, MA, of Vermilion, Alberta in August '99
Oliver James Chernyk, BEd, of Edmonton in August '99

'66 Wayne Allan Kennedy, BCom, of Ottawa
Eva M. Wapshott, BEd, of Drayton Valley, Alberta in August '99

'67 Peter Geoffrey King, MSc, '70 PhD, of Waterloo, Ontario in May '99

'68 Robert Harold Martin, BEd, '72 Dip(Ed), of Edmonton in October '99

Ailsa Marguerite Mackay (Martin), BA, of Edmonton in July '99

Marian Jean Muzyka, BEd, of Grande Prairie, Alberta
Janis Lee Schech (Watson), BSc(HEC), of St. Albert, Alberta in August '99

'69 Emad Debaji, BA, of Edmonton in October '99

Karl Heinz Hiob, BEd, '71 Dip(Ed), of Fort Saskatchewan, Alberta in August '99
Marjorie Alice Montjoy, BMus, of Edmonton in October '99

'70 Douglas John Adams, BA, '74 LLB, of Calgary in August '99

Guntram Beringer, BEd, of Edmonton in September '99
Robert Donald Lane, BEd, of Edmonton in October '99
Cecile Blandine Perras, BEd, of Edmonton in June '99

'71 Kathleen Kolba, BEd, of Edmonton in November '99
Marshall J. Lychak, BSc(Eng), of Belleville, Ontario in October '99
Colin Augustine McPhee, BSc, of Calgary in July '99

Brian Sharples, PhD, of Kingston, Ontario
Paul Barry Watson, BA, '75 Dip(Ed), of Edmonton in October '99

'72 Bernadett Marie Pelletier, BA, of Montreal in September '99

'73 Clinton McDonald Coultsman, BEd, of Edmonton in October '99
Eugene Takeshi Gyoba, BSc(Eng),

of Saskatoon in May '99
William Wallace McNairn, BA, '76 MEd, of Edmonton in October '99

'74 Gladys Christine Begg, BEd, of Warburg, Alberta in July '99
Ruth Elizabeth Frank, BEd, '77 Dip(Ed), of Calgary in April '95

'76 Ann Kathleen Alexander (Nekolaichuk), BEd, '83 Dip(Ed), of Edmonton in September '99
Evangeline Lodge, BEd, of Faust, Alberta

Gabriel Victor Pabian, BSc, of Calgary in October '99
Karl Gerard Weiss, BSc(Ag), of Silver Valley, Alberta in June '99

'77 Robert Gordon Abbott, BSc(Ag), of Edmonton in November '99

Rodney Paul Kaminski, BSc, of Sherwood Park, Alberta in October '99

Barbara Jean McLean, BMus, of Sooke, BC in August '99

'79 Gregory Garth Sylvester, BEd, of Edmonton in August '99

'80 Diana Eileen Olstad, BEd, '90 Dip(Ed), of St. Albert, Alberta in June '99

'81 Brad Albert Geddes, BSc(Eng), of Sherwood Park, Alberta in September '99

'82 Kjell Verner Aasland, BSc, '85 Cert(Sc), of Edmonton in October '99

Eugene J. Trottier, BA, BCom, of Calgary in September '99

'83 Richard William Lerner, BSc(Pharm), of Edmonton in October '99

'84 Margaret Joyce Hallam (Kaplan), BA, of Victoria in August '99

'88 Thorsten Watterodt, BSc(Eng), of Beaumont, Alberta in August '99

'90 Lorraine Janet Willey, BA, of Edmonton in July '99

'92 Andrew Alan Pemberton-Pigott, MA, of Gibbons, Alberta in August '99

'95 William Smith Ziegler, BSc(Eng), of Edmonton in November '99

'96 Jeffry Michael Patterson, BSc, of Calgary in October '99

to provide editorial services in Calgary and surrounding areas.

Farida El Dars, MSc, reports that she received her PhD degree in environmental sciences with distinction from "the toughest national university in Egypt," the Ain Shams U. Farida's work earned her the top position in her class, and she was honored during the Ain Shams U's 1997-98 commencement. She received her certificate from the university's president and was congratulated by all the high deputies.

Joy Lardner (Prasad), BCom, is a financial analyst responsible for external financial reporting with Alberta Health and Wellness. She is married to **David Lardner**, '86 BA, '89 LLB, and they have one son, Brian.

'86 Monique Tellier Phillips, BEd, is a teacher at Christ the King School in Leduc, Alberta.

Jodi Mackie, BEd, a science teacher at Meyokumin Elementary School in Mill Woods, Alberta, was recently honored with an award from the Association of Professional Engineers, Geologists, and Geophysicists for excellence in teaching science.

Barbara Nyland, MPM, is head of life sciences, for the Alberta Science and Research Authority, the senior science policy and strategy body of the Alberta Government. Barbara is also actively involved in Rotary International, particularly in world community service projects. Barbara invites all MPM grads interested in finding out what others from this program are doing to e-mail her at nyland@sra.gov.ab.ca. Her plan is to set up a group e-mail list.

Shelley Chapelski, BA, '90 LLB, has established a maritime and transportation boutique law firm, Bromely Chapelski, in Vancouver.

Dana Dolsen, MSc, says last November he began a new position at the Utah Division of Wildlife Resources as a wildlife planning manager in the director's office. Dana previously spent almost eight years as a social scientist with Montana Fish, Wildlife, and Parks in Helena. He hopes that with the Winter Olympics in Salt Lake City, he will see a few U of A friends drop in. "Give me a call/e-mail and/or drop on by—I am experiencing withdrawal symptoms from Canada—just became a U.S. citizen last October." Dana's e-mail address is dana_dolsen@hotmail.com.

Jim Manson, BSc(Eng), left his position

as vice-president, operations at Magrath Energy Corporation in Calgary to become "Mr. Mom and pursue other opportunities." In August 1999 Jim headed overseas to Stockholm, Sweden, to pursue a master's in sustainable energy engineering at the Royal Institute of Technology. He was joined by his wife, Kathy, and their son, Kyle, in late-September. "We just found out we will be expecting a new child in early January, so things are going to get hectic very quick!"

'87 Kimberly Hathaway, BA, of Calgary became the director of marketing and development for the Calgary Boys Choir in June 1999.

Earl Wolff, BSc, '90 BEd, a teacher at Sherwood Park's New Horizons charter school, received an award from the Association of Professional Engineers, Geologists, and Geophysicists of Alberta for the "Make School Cool" program. Earl, who teaches math and science to students in Grades 5 to 9, was recognized by APEGGA for his ability to create enthusiasm for these two subjects.

Judith Dola, BSc(Nu), is now the director of care at the Riverbend Retirement Residence. She invites calls from colleagues and classmates, (780) 438-2777.

'88 Marie Clifford, BFA, '91 MA, received her PhD at UCLA in June 1999. She is now a visiting assistant professor in art history at Kenyon College in Ohio for the 1999-2000 school year.

David Van Seters, MBA, of Vancouver, reports that after graduating from the U of A, he worked at KPMG as a management consultant for five years. In 1993 he established his own consulting firm, which he still operates, and last year he launched a new company, Small Potatoes Urban Delivery (SPUD), which home delivers wholesome groceries. David was married two years ago and last year became the father of a baby girl.

'89 Lai Wan Rewina Wong, BEd, is now teaching English in a secondary school in Hong Kong.

Thomas Oddie, MSc, recently moved to Houston, Texas, from Lafayette, Louisiana. He continues to work with Kerr-McGee Oil & Gas Corporation as manager of environment, health, and safety for international operations, where he is in charge of operations in Algeria, Australia, China, Ecuador, Kazakhstan, Thailand, and Yemen. Thomas and his wife were recently blessed with a second son in April 1999. Their eldest son is almost two and keeps mom and dad "very busy."

Celebrating the Teams of Green and Gold

Celebrating the 50-year-old Green and Gold tradition shared by the Edmonton Eskimos and the Golden Bears, the U of A held a special celebration on 29 October. The guests of honor at this golden event were 35 talented athletes who wore the jerseys for both football teams. The connection between the two teams goes back to 1949 when the Eskimos returned to the WIFU as a community-sponsored club, their boldly colored green-and-gold uniforms were provided by **Maury Van Vliet**, '79 LLD (Honorary) the then-director of physical education and recreation at the University. The rest, as they say, is history.

Garry Adam , '73 BEd	Bruce Gainer , '89 BEd	Stewart McAndrews , '84 BEd
Larry Bird , '69 BPE	Jay Hamilton	Bill Manchuk
Leo Blanchard , '79 BSc	Harry Hobbs , '49 BA	Bob McGregor , '71 BA
Nereo Bolzon , '84 BEd	Fred James , '68 BPE	Mike McLean , '86 BEd
Trent Brown	Brian Jones	Steve Mendryk , '53 BPE
Bob Clarke , '73 BPE, '86 BSc(Eng)	Clarence Kachman , '64 BPE, '71 Dip (Ed)	Ed Molstad , '67 BSc, '70 LLD
Mark Coflin , '77 BSc, '84 BCom, '88 MBA	Sean Kehoe , '81 BA	Kenneth Moore , '49 BA, '52 LLB, '88 LLD (Honorary)
Marco Cyncar , '79 BSc	Gerald Kunyk , '75 BPE	Tom Richards , '88 BA
Black Dermott , '84 BEd	Mike Lashuk , '62 BPE	Marc Tobert , '94 BSc
Peter Eshenko , '87 BSc(Pharm)	Peter Loughheed , '51 BA, '52 LLB, '86 LLD (Honorary)	Tom Towns
Ted Frechette , '64 BSc(Eng)	Leon Lyszkiewicz , '78 BSc	John Wilson , '71 DDS
Brian Fryer , '83 BPE		Dave Zacharko , '78 BEd



Huddled together are some of the former players from both of Edmonton's green-and-gold football teams.

Tim Hankewich, BA, '91 MMus, of Kansas City, Missouri, is the assistant conductor with the Kansas City Symphony and the music director of the Philharmonia of Greater Kansas City. His wife, **Jill Hankewich (Karafil)**, '89 BSc(Pharm) is working as a pharmacist at the Research Medical Centre.

'90 Joann McDermid, BSc (HEC), and her husband, Momo, are living in London, England, where Joann is attending the London School of Hygiene and Tropical Medicine to pursue a PhD in epidemiology and continue her research in HIV/AIDS. Joann's studies will take her to Africa where she will conduct her research. She is receiving a PhD fellowship from the Medical Research Council of Canada and an Overseas Student Research Award from the U.K.

Catherine Ferguson, BCom, '93 MBA, has accepted a new position within TELUS that means relocating to Calgary. "I'm very excited about this new adventure."

Elizabeth Lyle (Roddick), BCom, works in Sarnia, Ontario for BP Amoco as a marketing analyst. She reports she is "moving to Corunna, Ontario, to make room for the kids (2 boys)!"

'91 Wallace Lee, BSc, '92 Dip(Sc), is now employed at Hyder Consulting in Hong Kong as an environmental scien-

tist. He received his master's in environmental engineering from the U of New South Wales in Australia in June 1998. "I still miss home and the people there so much. Please send e-mail to wallylee@canada.com."

Tom Sharp, BCom, and **Tim Antoniuk**, '92 BFA, two of the three Hothouse Design Studio Inc. principals, report that they have opened a new location, a 4,000 square-foot store on 103 Street and 80 Avenue in Edmonton. Hothouse Design Studio was founded in 1992 as a design collaborative of several industrial design graduates. It is an Edmonton business success story, and Hothouse now sells its products to a large North American market through a retailer base of some 450 stores.

James Krempien, BSc(Pharm), was the Deputy Commanding Officer of the central medical equipment depot at CFB Petawawa, Ontario, before retiring as a Lieutenant-Commander after 10 years of service. Jim and his wife Christine are now in Calgary, where he is pursuing community pharmacy.

Jackie Ammeter, BCom, reports that, after operating her own business and then working for the Town of Sylvan Lake, Alberta, she is headed to Kibaale, Uganda, where she will volunteer for two years with a school and administer



OFF THE BEATEN PATH

Tom Cervenka '95 BSc, readily admits he is a hacker. But don't confuse him with those "unethical types" who secretly horde and trade information at the expense of others. When Cervenka hacks, computer executives have learned to pay attention.

Over a year ago Cervenka was working as a programmer for the Edmonton-based firm Specialty Installations when "almost by accident" he discovered that it was relatively easy to fool Microsoft's Hotmail system. By sneaking an extra code hidden in the JavaScript computer language into an e-mail message, he could gain access to the recipient's password and other accounts.

"I thought it was all quite funny and decided to write it up and put it on the Web, not thinking it would cause a ruckus," says Cervenka, 28, from his apartment in Toronto where he is currently based.

His detailed explanation revealed how he had broken through the security and how Hotmail users could be tricked into revealing their passwords through a process of false messages. Microsoft technicians quickly scrambled to fix the problem and came up with a patch the next day. To the computer giant's dismay, Cervenka found a way to get around that patch—within hours.

While the company investigated their security system more thoroughly, Cervenka experimented with other Web-based e-mail systems, found similar results and posted more online demonstrations. Later that week Microsoft announced it had a more substantial solution to the problem; however the next day Cervenka was able to break through the updated version.

"It was quite insane and a really hectic week. All online e-mail systems have changed as a result of what I found. The best way to get a problem fixed is to force the corporation's hand to fix the hole because they are often unwilling unless they are faced with public pressure."

Earlier this year Cervenka also found a security glitch in eBay, the world's largest online auction house. He found a hole that could allow people to gain access to other users' accounts and modify bids. When he didn't get a legitimate response from the company, he posted his findings online, and the problem was fixed immediately.



Ian Jackson

Cervenka developed his interest in computers while at the U of A. The Old Strathcona High School graduate started out in the engineering faculty.

"I'll never forget that year. Instead of studying engineering I became enthralled with playing pool, going to the arcade, or RATT. I think I broke a record that year, since my GPA was between 1.1 and 1.2."

He thinks there must have been a desperate need for engineers at the time because the department said it would override some of his courses if he repeated a term. Cervenka almost buckled down and his GPA rose to a whopping 1.4. "I failed horribly and got a dean's vacation. But one thing I did learn in engineering was how to break into a beautifully insecure system called Massachusetts Terminal System (MTS). That was my first introduction to hacking. It was all in good fun but it became slightly addictive for me."

Unsure of what to do, he worked in the "real world" for a year and then had to go to another institution (he chose Grant McEwan) before being allowed back into U of A. His marks never dipped below eights or nines, and he was reaccepted to the University. He eventually finished his honors degree in science with a major in psychology. But computers lured him back, and he took a year of computer science courses.

At the end of that year Cervenka realized he was "utterly obsessed" with the Internet and turned all his energies to finding any kind of job related to the World Wide Web.

His first job was with a local media production company where he was an HTML Web programmer. His next job was at Specialty Installations, and during that time he started exploring his hacking capabilities. But he always kept his

search for security breaches separate from his professional life.

"I virtually never try to find something. When I'm bored and think I have time to do something fun, I'll poke around. But I'm doing it totally as a hobby and there never was any money involved. And it would be hard to make money off this kind of thing because companies generally won't believe you until you show them the problem. And once you show them the problem they don't need to pay you to find it."

Cervenka is currently working as an instructor for the Toronto-based company called Fifth Era and is sometimes sent to teach in places as far away as Simon Fraser University or the U of A—wherever Fifth Era dispatches him.

"I'm still floating on the success of eBay," says Cervenka who will shortly be speaking at a conference in Singapore as a result of his security discoveries. "I guess we'll see what comes next."

No doubt the computer giants will be watching.

-Phoebe Dey

a child sponsorship program.

'92 L.J. Bol, BEd, is an English teacher in a Dutch high school in Amersfoort, the Netherlands.

Hector Mayani-Viveros, PhD, after graduation Hector went to Vancouver to do postdoctoral training. In 1994 he returned to his home country, Mexico, and now lives in Mexico City.

Ron Derworiz, BSc(Eng) and **Debbie Bishop**, '93 BSc(Eng), are proud parents of a baby girl, Claudia, born in December 1998. Debbie is back at the U of A studying law, and Ron has joined Cutler-Hammer Canada as the regional marketing manager for power products.

Arlene Breitzkreuz (Gist), BEd, and

her husband, **Daryn Breitzkreuz**, '90 BEd, are both working at Drayton Christian School in Drayton Valley, Alberta. Arlene teaches kindergarten and Daryn teaches Grades 4 and 5. They have two children, Markus and Nathanael.

Joan Beeson (Louissette), BEd, '81 BA, social studies and English teacher at Bridge Network in Grande Prairie, Alberta and the school's principal, Cindy



Beeson (in centre) and Meagher receive the Prime Minister's Award

Meagher, received a Prime Minister's Awards for Teaching Excellence.

'93 Tara Mah BSc, '96 LLB, has joined the Edmonton law firm Bennett Jones as an associate.

'94 Andrea Durand, BSc, is pursuing her master's in biology at the U of A.

David Paul, BA, is currently in the master's program in journalism at the U of Western Ontario. "Will be here until at least May of 2000."

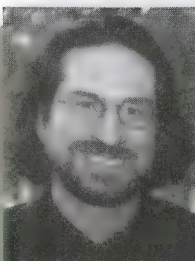
Wendy Tyner, BA, owns and operates a 300-head bison ranch near Lloydminster, Alberta, with her husband Todd.

Wendy is also the marketing coordinator for Border Credit Union and the mother of two small children.

'95 Andrea Gingras, MSLP, was married in August 1998 to Antonio D'Alesio in St. Bruno, Quebec, and she writes, "It was wonderful to have so many of my fellow speech grads share the day with us." Andrea lives in Montreal and is in her fifth year at the Montreal Fluency Centre, specializing in phonological awareness difficulties and stuttering.

Carolyn Down, BSc(PT), is working in a medium-sized, rural hospital in the Cleveland, Ohio area as an acute care and outpatient physical therapist.

'96 Sandra Dika, MSc, '93 BEd, was married to **Miguel Pando**, '95 MSc, in Mississauga, Ontario in May.



Gordon Fitzell, '96 MMus, was the first prize winner in the electroacoustic category at the 13th CBC

National Competition for Young Composers. The ceremony was broadcast live from Montreal in March 1999, and Gordon's family and friends—one as far away as Europe—were all tuned in to share in the excitement of his win. "I was really pleased," says Gordon his accomplishment. "It is an honor to win one of Canada's more prestigious awards."

One month later, Gordon's work, *Art*, for

the violin and piano, premiered at the gala grand opening of the William Glesby Centre in his home town of Portage la Prairie, Manitoba. Outside of Canada, Gordon's *The Garden Electric* was performed at France's 1999 Festival Synthèse Bourges and FUTURA 99: Festival International New Music Festival, also held in France.

Currently, Gordon is pursuing his doctorate in composition and theory at UBC. In his spare time, he is busy composing a piece that will have its premiere at the Vancouver International New Music Festival in May of 2000.

"Vancouver is a great venue for classical new music," says this composer, who has had his music performed and broadcast nationally and internationally.

Both Sandra and Miguel are attending Virginia Polytechnical Institute and State University, where Sandra is pursuing a PhD in educational leadership and Miguel a PhD in civil engineering.

'97 Shauna Johnstone, BEd, reports she has spent the last two years teaching elementary music and Grade 5 at Kennedy Elementary School in Grimshaw, Alberta.

Matthew Perks, MSc, of England is

working as a site technician on a land reclamation project in the industrial heartland of the Black Country and learning British sign language.

'98 David Iyalomhe, LLM, was admitted to the Alberta bar in July 1999, and has joined the law firm of Blake, Cassels & Graydon as an associate working in the oil and law group in the Calgary office. David is also a member of the Nigerian Bar.

CORRECTIONS

In the Autumn 1999 issue, **Peter Adie**, '58 PhD was incorrectly noted as having a '58 BSc degree. In the Spring/Summer 1999 issue, **Marguerite Alison Seymour**, '65 BA, '69 BEd, was listed in the In Memoriam section as a result of a mix-up; it was her mother who had passed away. *New Trail* apologizes for any inconvenience these errors might have caused.



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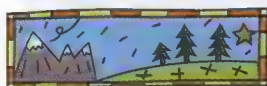
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ALUMNI SCRAPBOOK



▲ Approximately 150 people attended the Alumni and Friends of the Faculty of Law Association's Kick-off Reception held on 23 August at the Citadel Theatre.



▲ Mary Anne Kyhn (Beaton) '38 BSc, 39 Dip(Ed), '46 BEd, '57 MEd, gets ready to enjoy a famous Tuck Shop cinnamon bun at the Tuck Shop Breakfast, where more than 400 alumni gathered during Reunion Weekend festivities.



▲ Flashback Frenzy was part of the Reunion Weekend celebrations, where alumni grooved to the tunes of the Kit Kat Club. Shown in photo is the Nursing Diploma class of 1969.



Branch president Keith Sveinson, '57 BSc(Ag), receives the award for best Alberta Branch at the Alumni Branch Presidents' Seminar held in conjunction with Reunion Weekend. He is congratulated by U of A President Fraser and Alumni Association president Lucille Walter, '63 BEd, '77 Dip(Ed).



◀ Winning the best all-round branch award was Toronto. Outgoing branch president Harry Cogill, '65 BA, '72 MBA, and incoming branch president Garrett Poston, '98 BA, are pictured with President Fraser as they accept the award.

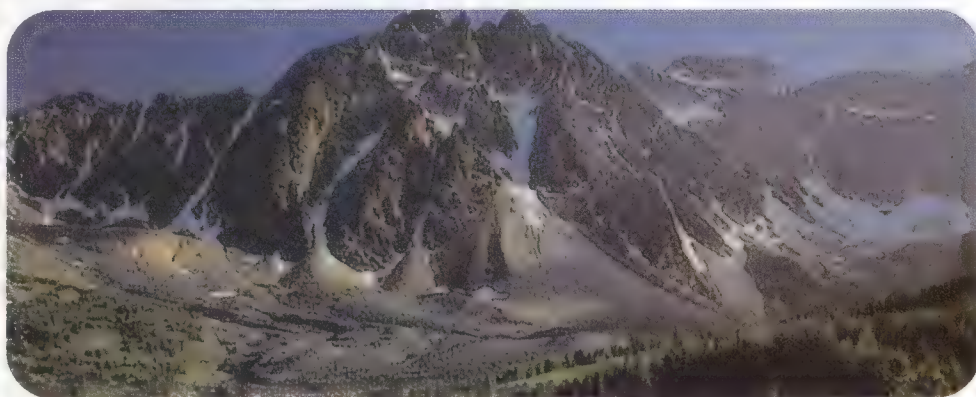
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1999 DISTINGUISHED ALUMNI AWARDS

On 30 September 1999, as part of the Reunion Weekend '99 celebrations, four distinguished alumni received the Alumni Association's Distinguished Alumni Awards and were inducted to the Alumni Wall of Recognition, located in the Students' Union Building. These graduates have an outstanding record of personal, professional, and community achievement and serve as an inspiration to current U of A students.

CLARE DRAKE

'58 BEd, '95 LLD (Honorary)



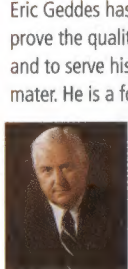
Clare Drake is the most successful coach in the history of Canadian college hockey. Under his leadership, University of Alberta

Golden Bear hockey teams won 697 games, six national championships, and 17 Canada West conference titles. He has also coached football, and in 1967-68 his Golden Bear teams won national titles in both hockey and football. A co-coach of Canada's 1980 Olympic hockey team, he coached gold-medal teams at the World Student Games, and at the Spengler Cup tournament. He has also coached in the NHL and served as a mentor coach for Canada's national women's hockey team.

Throughout his career at the University of Alberta, Clare Drake has provided enlightened leadership to hockey coaching development, and his writing contributed substantially to the theoretical background of the renowned Canadian Coaching Certification Program. A gifted teacher, he has conducted coaching workshops and hockey clinics throughout North America, Europe, the Orient, and Australia. He was twice named the Canadian Inter-university Athletic Union hockey coach of the year and is in both the Alberta and Canadian Sports Halls of Fame.

ERIC GEDDES

'47 BCom, '80 LLD (Honorary)



Eric Geddes has worked tirelessly to improve the quality of life in Edmonton and to serve his profession and his alma mater. He is a former president of the Edmonton Chamber of Commerce, the founding chairman of the Old Strathcona Foundation, and a trustee and former chair of the

Winspear Foundation. The former managing partner of Price Waterhouse's Edmonton office, he was a member of the Board of Governors of the University of Alberta from 1972 until 1978 and served as the Board's chair for three years.

Recognizing the importance of science and technology to the development of Alberta's economy, Dr Geddes founded Edmonton's Advanced Technology Project and served as the first chair of the board of trustees of the Alberta Heritage Foundation for Medical Research. He later chaired two centres established under the national Networks of Centres of Excellence program. For his outstanding contributions to the community, in 1990 Dr Geddes received the inaugural Alberta Science and Technology (ASTech) Leadership Award. His many other honors include the Order of Canada, which he received in 1989.

WILTON LITTLECHILD

'67 BPE, '75 MA, '76 LLB



For years the Indian Association of Alberta has given out awards to Native students recognizing their outstanding contributions to their communities, as well as athletic and academic excellence. These awards are named for "Willie" Littlechild, the first Treaty Indian in Alberta to graduate with a law degree and the first Treaty Indian ever elected to the Canadian parliament. In all his endeavors, Mr Littlechild has exhibited commitment to excellence. As an athlete he won more than 45 provincial, regional, national, and international championships. For his efforts as a coach and organizer of sporting events, he won the 1988 Paul Harris Fellowship Award from the Rotary Clubs of Canada.

As a parliamentarian, Mr Littlechild served on several senior committees in the House of Commons and was a parliamentary delegate to the United Nations. At the international level, he organized a coalition of Indigenous nations that sought and gained consultative status with the Economic and Social Council of the UN, and he is working with the UN on the creation of a permanent forum for Indigenous People. In 1999 Mr Littlechild was awarded the Order of Canada.

ROBERT STEADWARD

'69 BPE, '71 MSc



As a student in the 1960s, Bob Steadward helped plan a wheelchair basketball tournament. That involvement eventually led to his becoming the world's foremost figure in the promotion of sports for persons with disabilities and an organizer of international sporting events. He has served three consecutive terms as president of the

International Paralympic Committee and is the director of the University of Alberta's Rick Hansen Centre, a world renowned research and development facility for disabled athletes.

As president of the International Paralympic Committee, Dr Steadward has helped increase its membership from 37 countries to nearly 200, resulting in expanded access to sport for disabled people worldwide. For his efforts, he has received the highest award in Canada for volunteer contribution, the Bryce Taylor Award, and has been named an Officer of the Order of Canada. A leader in securing the 2001 World Track and Field Championships for Edmonton, he was one of 12 people in the world outside the International Olympic Committee to be appointed to the IOC 2000 Commission on Ethics and Reform.

ALUMNI AWARDS PROGRAM 2000

CALL FOR NOMINATIONS

The Alumni Association is pleased to be offering an expanded program of Alumni Awards for 2000 and is seeking nominations for the following awards. Recipients must be graduates of the University of Alberta. The deadline for nominations is **29 February 2000**.

Distinguished Alumni Awards

The Alumni Association's highest honor, the Distinguished Alumni Awards recognize outstanding personal and professional achievement, as well as exceptional contributions to the community. The recipients will be inducted to the Alumni Wall of Recognition.

Alumni Awards of Excellence

These new Alumni Association achievement awards recognize specific accomplishments or honors earned by alumni in the preceding year.

Alumni Horizon Awards

These awards for recent graduates recognize the achievements of alumni in the first decade or so of their career.

Alumni Recognition Awards

These awards are designed to recognize the many alumni who are making exceptional contributions to their professions, their communities, society-at-large, or the University of Alberta.

For more information or to request a nomination package, contact the Office of Alumni Affairs or visit the Association Web site at www.ualberta.ca/alumni/



T U C K S H O P

Spreading the word

*Brian Stevenson is the
University's chief
international promoter*

By Phoebe Dey



Lotus Studio

Brian Stevenson sips from his industrial-sized coffee mug in his spartan second-floor office in University Hall. No art work or travel mementos adorn the walls of the office of the University's new associate vice-president (international), but the essentials are there: coffee maker, Rolodex and computer with Internet access.

In contrast to his stark surroundings, Stevenson's demeanor is warm. If one expects a starchy academic in a sombre suit, it's not Stevenson. Dressed on this day in a darkly striped Ralph Lauren shirt, navy blue cotton pants and brown loaf-

**"Internationalization
begins on campus. So
my main emphasis has
been to get to know
people here."**

ers, he quickly makes you forget he has shared the same space as some of the world's top political figures.

His birth may well have destined Stevenson for a career in international relations. In the 1950s his Mexican mother was teaching English and Spanish to tourists on a cruise ship docked in Vancouver. During her stint, she met and later married his father, the first officer on the ship.

"It was a *Loveboat* kind of romance," says Stevenson with a smile.

Since his father, who hailed from Northern Ireland, was away from home for long periods of time the couple soon decided to move to Mexico. Except for a few years in Florida, they stayed in Mexico until Stevenson's father retired.

"So I'm sort of a NAFTA boy ... you know—born in Canada,

grew up in the States and Mexico, and have family in all three countries," he says. At age 16, he returned to Canada.

Ask him about his formal education, and he'll recite his credentials nonchalantly. He earned a BA and MA in Canadian studies from the University of Victoria before transferring to Queen's University to complete his doctorate in international relations.

While at Queen's Stevenson did summer internships at the Central America division of Foreign Affairs in Ottawa. Being fluent in Spanish and knowledgeable about Latin America didn't hurt, he admits. After finishing his PhD residency requirements, he stayed in Ottawa, and worked on Parliament Hill until 1991 when he returned to Mexico as associate (and founding) professor at the Instituto Tecnológico Autónomo de México (ITAM) and coordinator of the Canadian studies program. His duties included partnering his school with Canadian universities, and the one he chose in Alberta was the U of A. The relationship worked out well, and in 1995 Stevenson spent one year in Edmonton as a visiting professor.

Ottawa then called him back, and he returned to become senior policy advisor to Art Eggleton, the international trade minister, and then to Lloyd Axworthy, who had become foreign affairs minister.

"Altogether I thought three years in Ottawa was about what I wanted to do, because it's a very harsh lifestyle. It's wonderfully interesting and fascinating, but it's hard," he says, running his fingers through his hair as if trying to tame his spirited curls.

When the position became available at the U of A he discussed it with President Fraser, with whom he had kept in con-

tact since his ITAM tenure. He eventually was offered the job and started on 1 August.

Today he balances his days talking to staff and students at the International Centre ("whenever I have a free lunch I like to spend it there") and to government officials. "Internationalization begins on campus. So my main emphasis in the first few months has been to get to know people here."

Away from the office

Easily shifting gears from his professional life to his personal one, Stevenson confesses that when he's not on campus, he is likely to be found in a movie theatre. He has eclectic tastes, but ask him his favorite genre, and without hesitation he'll say science fiction. "Especially if it makes you think of politics, religion, and the human condition." The self-described "movie buff" easily lists *Bladerunner* as his all-time favorite film. A documentary called *Buena Vista Social Club* about Cuba also ranks high.

Stevenson's love for movies may be rooted in something few people know about him. When he was a child living in Mexico, he acted in four movies and a few commercials.

"I did one movie with Glenn Ford and Stella Stevens called *The Rage*, where I played a little Mexican kid in a schoolbus that was hijacked."

While Stevenson might dream of a life in Hollywood, ("doesn't everybody?"), he is content with making a home in Edmonton with his wife, Judy Davies, who is articling at a downtown law firm following completing her law degree from Ottawa University.

"I've had a good, patient wife and we've been moving around for quite awhile. I am ready to settle down." 🏠

ABOUT

BRIAN STEVENSON

Favorite music:

Likes a mix ranging from Kitara, a Japanese new age performer, to Baroque and rock.

Favorite vacation spots:

Kananaskis and Valle de Bravo, a lake near Mexico City. ("I love cabins and cottages.")

Most impressive political figures he has met:

Madeleine Albright and Fidel Castro. ("not at the same time, obviously.")

Regrets:

Not going to law school. ("I think that's why I'm so proud and pleased my wife went.")

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Gabriel Dumont in Paris

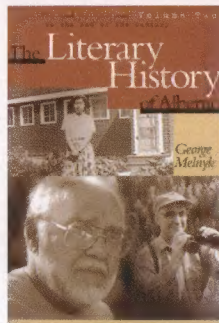
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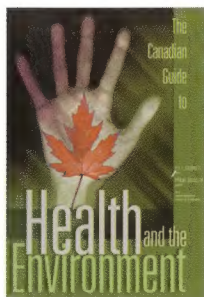
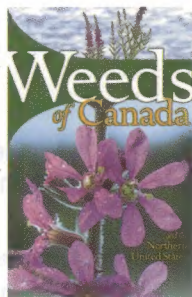
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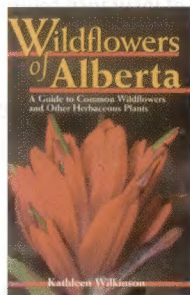
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